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DEMONSTRATION OF AN APPROACH TO THE INTERNSHIP CONCEPT IN ENVIRONMENTAL HEALTH

Herman Koren

Indiana State University

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December 15, 1969

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ABSTRACT

The continuing and growing demand for highly skilled, broad gauged environmental health specialists has placed a new responsibility upon the university and the environmental health profession. It is less than satisfactory to hire general scientists or majors in chemistry and biology and then retread them for up to two years by means of short term training and close supervision before they can be of real value to the health department. The better approach is to prepare the student in the basic biological and chemical sciences, followed by specific courses in environmental health mind stretching courses in community health and health education, and by integrating this preparation with the practical existing problems of the community. The educational approach used is based on the philosophy of the university. The practical problem solving approach may be based on the concept of environmental health internships where the intern, under the close supervision of the university coordinator and the health department supervisor, works as a full-time productive member of the staff of a local, county, or state health department while he gains practical experience, refines his basic environmental health skills, learns to work with people, learns to identify problems and make reasonable recommendations, develops techniques for studying major problems in depth, and prepares comprehensive reports.

The development of this internship concept was financed through a grant from the Consumer Protection and Environmental Health Service, U.S.P.H.S., H.E.W. The charge of the grant was to demonstrate the efficacy and feasibility of the internship concept through the implementation of supervised work experience in state and local health departments.

The concept was tested and proven to be highly successful. Twenty-five environmental health majors from Indiana State University, during the summer

of 1969, served in 13 health departments in a four state area including Illinois, Indiana, Michigan and Ohio. The 21 students who prepared reports performed 2,200 direct services by themselves and effectively worked 7,200 hours exclusive of travel time. The health department supervisors indicated that 88% of the students had definitely earned their salary and that if positions were available at the time of graduation, they would be anxious to hire these students as full time employees.

The university coordinator developed and put into operation a daily work log; a monthly summary of logs; a log manual; a procedure for developing a special project; the content of the final student report; a performance rating form for student interns; evaluation questioners for student interns and health department supervisors; and a model step by step procedure for starting and maintaining an internship program.

The university, the health departments, the university coordinator and the student interns benefitted greatly from the 1969 summer internship program. They are eagerly looking forward to an expanded program in the summer of 1970.

CHAPTER I

INTRODUCTION

In Aristotles's ideal state, "The Public Health,"[1], which was in fact environmental health, was the major concern in choosing the site of the city. Shattuck in 1850 explored our public health problems and anticipated our needs by saying that we should pass smoke ordinances, protect foods, establish schools for training sanitarian inspectors, etc.[2] During the enlightened era of the 1880's to the 1920's we conquered yellow fever, typhoid fever, and disentery. We then settled down to a well beaten path of complaint checking, milk inspection and premises placarding. Unfortunately, although they were 23 centuries apart, Aristotle and Shattuck, anticipated some of the environmental health needs of today and the future, we neglected for the most part to listen.

We must truly recognize that change is inevitable and that at each point in the growth process of our society, we must mold the change to prevent disease and promote health, if we are not to wallow in our pollutants and suffocate in our rat infested, poverty stricken urban slums. Our children will sail their toy boats in streams of sub-division sewage in our suburban streets and parks. Our urban rural and semi-rural areas will continue to grow erratically without planned direction -- needing, but lacking, competent environmental health programs that are our constitutional rights, rather than some hoped-for ultimate goal of our society.

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[1]The Modern Library, New York, The Politics of Aristotle, Random House Inc., p. 300.

[2]Anderson, C. L., Community Health, C. V. Mosby Company, p. 11.

Beginning with the WW II era, man's interaction with his environment has been complicated by mass rapid transportation, improved means of communication, great population mobility, increased wealth, increased knowledge, rapid advances in science, automation, new chemical processes, great demand for goods and services, inner city decay, an explosion of subdivisions on the rural fringes of cities, and intense air and water pollution. This new and rapidly changing environment has further emphasized the need for control of the physical, chemical, and non-human biological forces that affect basic survival and protection against disease and injury.

A step toward control of these forces has occured through the passage of much recent federal and state legislation concerned with air pollution, water pollution, rodent control, housing, meat sanitation etc. Basic knowledge in all environmental health areas has expanded considerably. However, laws and knowledge without implementation is very much like a garden of magnificant plants without gardeners. They tend to waste away before they can reach their full potential. Our environmental health gardeners, although in very great demand, are in very short supply.

The demand for the gardener -- the trained environmental health specialist -- has been created by the aforementioned laws, by the rapid growth in population, by the expansion of the urban centers into the rural areas, by the legal requirement for the development of new health departments, and by the loss of highly skilled sanitarians to management positions that the engineer and physician used to hold. It was estimated in the Gross Report (Report of the Committee on Environmental Health Problems to the

Surgeon General, 1962)[3], that by 1970 there would be a need for twice the number of present personnel in the environmental health category and triple the number in certain specialities. At the time that this report was written, there were 28,000 people employed in the United States in environmental health occupations and thus the increased need is in the tens of thousands.

More recent estimates made by the Consumer Protection and Environmental Health Service indicates that by 1975 there will be a need for 29,800 sanitarians and by 1980 there will be a need for 34,200 sanitarians in the United States. Despite all our efforts to meet the demand for trained sanitarians the need will continue to grow.

Already 1700 new positions have been created by abatment programs resulting from the impetus of the National Clean Air Act. Water pollution vacancies also number in the hundreds.[4] County health departments are being formed in certain states as a result of State legislation that requires that each county or multi-county unit of given populations establish a health department.[5] Some of the states which require local health departments include: Indiana, Ohio, Kentucky, Michigan, and Illinois, etc.

Despite these unmet needs, only 85 students earned a Baccalaureate Degree in environmental health in 1969.[6] Some positions were filled by

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[3]Goerke, L. S., M.D., "Manpower to Restore the Quality of Our Environment," Journal of Environmental Health, July-August, 1966, pp. 54-59.

[4]Ballus, Walker Jr. M.P.H., Department of Health, Cleveland, Ohio, "Manpower Problems of Environmental Health", pp. 1-2.

[5]Acts of Indiana General Assembly, Local Health Department Reorganizations Act, CH 358X-1965.

[6]Adams, H. S., "Four-Year Curriculum in Environmental Health", Journal of Environmental Health, Nov.-Dec. 1968, p.226.

retraining existing personnel or by hiring college graduates with backgrounds in the sciences. In either case, short courses and one to two years of closely supervised experience in the environmental health specialities have become necessary to bring these individuals up to a level of competency that will make them of value to the health department.

To fill the additional requirements of health departments for highly skilled, broad gauged environmental health specialists, it will be essential for the universities to develop comprehensive programs of undergraduate environmental health education. In keeping with this need, Indiana State University in 1966 developed a new undergraduate program in Environmental Health Science.

CHAPTER II

A PHILOSOPHY OF UNDERGRADUATE ENVIRONMENTAL HEALTH EDUCATION

A philosophy of environmental health undergraduate education was developed at Indiana State University that encompassed direct preparation for the environmental health field; use of the systems approach in teaching; the public health professional as a university professor; the internship concept, which involves the health department and the university in a team approach to professional preparation; and active recruitment of students for the environmental health profession.

Preparation in the basic biological and chemical sciences followed by specific courses in environmental health, community health, public health and health education is more meaningful to the student in preparation for his profession than a heavily science oriented background.

Basic environmental health courses are taught by using a combination of the systems approach and self study. Since it is impossible to teach the enormous amount of material in the field of environmental health in the allotted time, the function of these courses are to present an overview of the art and science of the vast variety of environmental health areas. For example, the milk plant and swimming pool are much the same. Each has an input, filters or clarifiers, piping systems, holding tanks, temperature control, output, etc. The way in which the product flows and the methods of operation or production with associated potential hazards are diagrammed and discussed in detail. The student must then learn for himself terminology, temperature pressure relationship, tests and sampling procedures, etc. Inspectional techniques are discussed in class.

This method of teaching dictates that a public health professional must be the teacher, because his professional experience equips him to teach students the real world of environmental health. The supplemental use of environmental

health internship enables the integration of the art and science of the profession taught at the University with the practical existing problems in the community.

The need for articulating professional study programs provided in an academic atmosphere on campus, with supervised work experiences gained through the medium of relevant off-campus employment is a concept that is emerging slowly but steadily in higher education. This practice has the potential of becoming one of the more significant developments related to the preparation of individuals to serve in professional-vocational fields.

Actually this principle is not new, since on-the-job experience of an introductory nature have been provided by many employers for quite some time and a number of universities have cooperative (work study) curricula, particularly in their engineering schools (Indiana State University has developed many cooperative education programs in various areas of its curricula). However, in-service programs designed to enable adjustment to a particular vocation seldom prove to be sufficient unless an unusual amount of time is devoted to such matters both by the universities and by the employers. In fact, many employers are highly interested in cooperative education programs as one way of identifying and recruiting effectively prepared professionals.

Student teaching programs and internships promoted by Schools and Departments of Education have contributed immeasurably to professional development of teachers. Internships required of medical and allied practitioners have likewise proven to be of unquestionable value. Furthermore, numerous professional societies interested in matters of program accreditation either require or recommend the equivalent of professional field practice as part of preparatory programs of study.

CHAPTER III.

OBJECTIVES OF THE ENVIRONMENTAL HEALTH INTERNSHIP PROGRAM

Professional field internships should serve the following functions regarding the professional growth of those students who elect the environmental health program of studies.

1. Assist with the development of an applied professional philosophy.
2. Provide practical introductory work experiences under appropriate supervision by experienced and competent personnel.
3. Enable the refinement of basic skills essential to practice of the professional field involved.
4. Assure familiarity with the activities of practicing professionals in the field of environmental health.
5. Allow for participation in the planning of various work activities and learn how to establish priorities.
6. Fulfill certain individual needs that cannot be readily met in the usual classroom-laboratory environment.
7. Provide essential contacts which are usually helpful to one entering a chosen profession.
8. Understand the relationship between the sanitarian and various governmental agencies such as the boards of supervisors, planning commissions, etc.
9. Appreciate the problems involved in securing compliance with health laws, rules, and regulations.
10. Appreciate the complexity of working with people in the resolution of environmental health problems.
11. Learn how to convince people to make corrections without resorting to the use of force techniques.
12. Develop techniques and forms needed to define and describe a major environmental health problem within the community.
13. Recognize the underlying cause for environmental health problems and suggest needed recommendations.
14. Prepare comprehensive and documented reports of special problems which will be of use to the health department, the university, and the student himself.

15. Identify and record the major problems and major recommendations of each environmental health activity.

16. Evaluate the preparation received from the university, the health department, and self study in each area of activity.

17. Evaluate the orientation given by the health department and recommend changes where needed.

18. Recommend changes if needed in the university's curriculum.

19. Develop into a mature human being who will appreciate the problems of environmental and community health and actively participate in their resolution.

There is an obvious necessity for health departments and universities to form a team to develop the skills of the student. Large groups of well-trained sanitarians can only be produced by pooling all existing knowledge and resources.

A major effort is being made to interest new students in the environmental health curriculum through the counseling service, personal contacts, and other channels of communication.

CHAPTER IV.

APPROACH USED TO SECURE POSITIONS FOR STUDENTS

In order to secure positions in health departments for students enrolled in the environmental health curriculum it was necessary for the university coordinator to contact many health departments in Michigan, Illinois, Ohio, Indiana, Kentucky and Missouri. The directors of environmental health of the state health departments were first contacted by phone. The university coordinator described to these individuals the philosophy of the curriculum being taught at Indiana State Univeristy, the number of environmental health majors in the course of study, and the concept of field internships. Where the health departments seemed to be interested in establishing an internship program, the university coordinator sent a detailed follow-up letter. Subsequently, a number of phone calls were made to the several health departments to make appointments for field visits to discuss the internship program in greater detail. The university coordinator met with the director of each environmental health program, the training officer, and with individuals concerned with personnel administration. It was found that these field visits were essential since it was impossible to fully describe the internship concept and the potential value of the student to the health department in any other way. Once agreement was reached, the environmental health director then sought approval from the health officer, the board of health, and where applicable, the merit system administrators. As a result of these visits, twenty-five environmental health internships were established in 1969.

CHAPTER V.

PROBLEMS RELATED TO SECURING ENVIRONMENTAL HEALTH INTERNSHIP AND SUGGESTED APPROACHES

Professionals in the environmental health field generally agree that the internship concept is most useful to the student and of great value to the health department. However, there were many problems related to the obtaining of the requisite positions. These include such items as: understanding of the Indiana State University internship concept; budget for student positions; scope of the health department's programs in environmental health; merit system requirements; time needed for the approval of internships; previous unsatisfactory experience with a student trainee from another institution; state residency requirements; and a reluctance of health departments to spend the necessary time in training and evaluating the students.

Although contact had been made by phone call and letter with directors of the various health departments that participated in the internship program, there were still some misunderstandings concerning the duties of the students.

In the past graduate schools of public health and certain undergraduate schools had placed their students in health departments to get practical field experience by serving mainly as observers, recorders, and evaluators of environmental health and public health programs. An example of this would be a course in public health practices given by a school of public health, where groups of students study and evaluate health department programs in the field. Another example of this type of internship is that offered in an undergraduate curriculum, where students spend a six-week period in the field observing environmental health problems.

During the university coordinator's field visit he emphasized that the student from the Indiana State University program was to become a full working member of the health department and was to earn his salary, thus, the work assignments of the Indiana State University student had to be different from that established for other types of students. When this fact was clearly

understood by all, it was much easier to convince the health departments to provide positions for the students and to provide reasonable stipends for their summer work.

The availability of funds for student positions was a major obstacle to securing internship positions in several of the health departments. Since budgets are generally approved one to two years in advance of the time when money is used, it was difficult or impossible in many cases to establish a new program on short notice. This problem considerably reduced the number of available health departments. In some situations the health departments were able to hire students for the summer months by converting the funds accruing from vacant sanitarian positions. Other health departments were unable to use such funds for this purpose.

Funds were available for hiring students in all State Health departments contacted; however, the money was specifically designated for stream pollution and similiar projects.

Since comparatively few students will become specialized within the field of environmental health, it is essential that they have a complete exposure to all areas of environmental health during their undergraduate education including their internship program. One of the difficulties encountered in obtaining adequate internships was the scope of environmental health activities within the health departments. For example, some health departments were so organized that it would have been difficult to schedule the students to observe and/or work in all problem areas. The state health departments were more engineering oriented than county health departments; however, the supervisors arranged for the students to observe and participate in supplementary activities in local health departments.

Merit system requirements in some health departments are such that student's positions cannot be included in the normal work assignments. Some

require that the student be a resident of the State or local area for a period of at least one year prior to the time of employment. In some health departments, although State residency requirements do not exist, directors will not hire students from other States. They feel that their funds should be used to support residents of their own State.

Time is a major factor in obtaining approval for internships. It is necessary to discuss the positions with the health departments as early as one year in advance to as late as six months prior to employment. This gives the health departments time to decide if they will use environmental health interns rather than hire other part-time employees. In the past the part-time positions have been filled by teachers, medical students, etc.

It was noted that health departments which have had undesirable experiences with student trainees from any university for any purpose are reluctant to participate in the internship program. In one case, a student from another university apparently attempted to organize a group of milk plants into a union. In another case a student from still another university made numerous errors that eventually were brought out in litigation. This was a source of embarassment to the health department.

Personnel in some health departments either are unable or are reluctant to spend the time necessary to train, schedule, and evaluate students. In these instances it is their feeling that the only way they can justify the amount of money paid to the student during the summer is to put him in a specialty program such as swimming pool inspections and to use him to handle unusual summer work loads.

Initially it is essential to contact as many State health department environmental health directors and training officers as possible to inform them of the internship program and to attempt to arrange a personal visit to their office. It is also advisable to contact the officers of the professional

organizations within the surrounding states; they may either accept students or refer you to other individuals who are capable of participating in the internship program. The field visit of the university coordinator is essential in order to clarify and discuss the objectives of the program, problems, and operational procedures. Generally it is a good idea to have not only the state environmental health director present at this meeting but also representatives from the appropriate personnel departments. At that time the internship program is discussed in detail including the following salient points; the internship is an integral part of the environmental health program of studies and, therefore, the student will be unable to complete his graduation requirements unless he does an acceptable job during his work assignments; the student generally serves his first internship at the end of his junior year, when he has completed some community health courses and his basic science requirements; the second internship is generally served at the end of his senior year, when he has completed all course work and is now ready to graduate; the students will be about 60 percent productive as sanitarians during their first internship, with the remainder of the time being used for learning the work and evaluating performance; the level of student productivity in the actual work of the department provides flexibility in the use of permanent personnel and also provides a means for covering work assignments during vacation periods; the questions of student interns helps stimulate the staff to read current material; the internship program is an excellent recruitment devise. The two main points used to sell the internship concept to health departments are the great recruitment potential, and the relief and flexibility provided during summer peak periods of activity.

CHAPTER VI.

DESCRIPTION OF THE INTERNSHIP PROGRAM-SUMMER 1969

During the summer of 1969, twenty-five environmental health majors at the undergraduate level from Indiana State University were employed as summer interns by a variety of health departments in a four-State area--Illinois, Ohio, Michigan, and Indiana. The following is a list of students and working assignments:

Ted Alexander
1200 North Telegraph Road
Pontiac, Michigan

James Barnes
Oakland County Health Dept.
27725 Greenfield
Southfield, Michigan

Glynn E. Bradshaw
Hendricks Coounty Health Dept.
Danville, Indiana

Gary Caprarotta
27725 Greenfield
Oakland County Health Dept.
Southfield, Michigan

Richard Crim
Illinois State Health Dept.
48 Galena Blvd.
Aurora, Illinois

J. Kent Drew
Wayne County Health Dept.
Eloise, Michigan

Gene R. Ewing
Vigo County Health Dept.
120 South 7th Street
Terre Haute, Indiana

James Flory
Oakland County Health Dept.
1200 N. Telegraph Road
Pontiac, Michigan

Gary Frick
Oakland County Health Dept.
27725 Greenfield
Southfield, Michigan

Michael Goss
Marian County Health Dept.
Division of Environmental Health
City County Building
Indianapolis, Indiana

Ronald Grimes
Hendricks County Health Dept.
Court House
Danville, Indiana

Wm. Woodruff
Summitt County Health Dept.
Cayuga Falls, Ohio

Thomas J. Kough
Illinois State Health Dept.
2125 South 1st Street
Dayton, Ohio

George Leisure
Wayne County Health Dept.
Eloise, Michigan

Richard R. Mack, Jr.
1200 North Telegraph Road
Pontiac, Michigan
Oakland County Health Dept.

Donald Martin
Montgomery County Health Dept.
325 W. 2nd Street
Dayton, Ohio

George E. Pillow, Jr.
Marion County Health Dept.
Division of Environmental Health
City County Building
Indianapolis, Indiana

John A. Plesniak
Illinois State Health Dept.
48 Galena Blvd.
Aurora, Illinois

James Redicks
Will County Health Dept.
Joilet, Illinois

Connie G. Schlatter
Indiana University Medical Center
Bloomington, Indiana

Michael Simpson
120 S. 7th Street
Terre Haute, Indiana
Vigo County, Indiana

Richard Sluzewski
Steuben County Health Dept.
Eloise, Michigan

Steven Tackitt
Wayne County Health Dept.
Eloise, Michigan

Richard Woodbury
Lake County Health Dept.
Wawkecgan, Illinois

The students reported to their assigned areas of work on June 2, 1969. The students were oriented by the health departments in a variety of ways to their summer work assignments. In some cases orientation was limited to a review of policies and procedures of the health department (the student had to learn these on his own). In other cases the student was sent out into the field to accompany a practicing sanitarian and to observe the type of work he was doing. In other instances orientation was much more formal; the students had a detailed look at the operation of the health department, the operations of the environmental health division, and the work of several practicing sanitarians as they accompanied them on field visits. In all situations it was necessary for students to learn about the various forms used by the health departments, and they were espected to familiarize themselves with the operational procedures of the health department. The students were then sent out into the field to start their work as practicing sanitarians. The student encountered a vast variety of experiences which they shared with the members of the department where they were employed and with the university coordinator at the time of the field visits. The students were expected to perform all tasks assigned to them by the supervisor, complete a detailed log of activities, develop and carry out a complete study, report on a major environmental health

problem, and complete a series of outside reading assignments which complemented the field work.

The health department, university coordinator, and student negotiated the title of the student's special project. The university coordinator worked with the health department and the students to keep the internship program running smoothly and to accomplish all the goals set forth for the student intern. The students submitted a summary of their daily logs each month and an outline of their special project to the university coordinator. The university coordinator reviewed the reports and helped redirect the student where necessary. The students completed the internship work on September 5, 1969 and the following week returned to school. The student had a vast variety of experiences as they worked in rural areas such as Steuben County, Indiana and in metropolitan areas such as Wayne County, Michigan.

The participating health departments included:

1. The State of Illinois Department of Public Health, regional office in Champaign-Urbana, which serves an eighteen-county rural and semi-rural area within the east central region of the State. Some services are provided also to the Champaign-Urbana metropolitan area which has a population of over 100,000 people.

2. The State of Illinois Department of Public Health regional office in Aurora which encompasses a twelve-county area of over 7,000 square miles and a population of roughly seven million people. The area served were from rural to highly urbanized.

3. Oakland County, Michigan which is located in the heart of southeast Michigan. It has an approximate population of one million people and covers an area of some 900 square miles which had 423 lakes within its boundaries. The areas of the county vary from rural to highly urbanized.

4. Hendricks County, Indiana which is the second fastest growing county in Indiana. It has a population of approximately 50,000 people and an area of

417 square miles. It is basically rural but because of its proximity to Indianapolis it had become deeply involved in the subdivision nightmare.

5. Vigo County, Indiana has a population of about 110,000 people and is 415 square miles in area. It is a combination of highly rural and urbanized areas. The major city is Terre Haute, which has a population of about 80,000 people.

6. Marion County, Indiana is a combination of rural and highly urbanized areas. Indianapolis, the largest landlocked city in the country has the vast range of environmental health and community health problems typical of any other large city.

7. Montgomery County, Ohio is located in the southeast part of the State. It has an area of 465 square miles and a population of 650,000 people. While the city of Dayton located in Montgomery County, it is not served by the Montgomery County Health Department. The county varies from rural to urbanized areas.

8. Wayne County, Michigan is in the eastern Great Lakes Region. It has an area of 622 square miles and a population of 2.6 million people of which 1.6 million live within the city limits of Detroit. The Wayne County Health Department does not serve the city of Detroit. The county varies from a highly rural to a highly urbanized society, with all the problems existing in other urban centers.

9. Will County, Illinois is 432 square miles in area and has a population of 600,000 people. It includes the city of Joliet. The county varies from a highly rural to a highly urbanized society, with all the problems existing in other urban centers.

10. Indiana University Student Medical Center, Bloomington, Indiana, is the health center for the University of Indiana. The University of Indiana has a population of 29,000 people and 187 square miles and has all the problems of a small highly organized community.

11. Steuben County, Indiana has a winter population of 17,500 and a summer population of over 100,000. It is located in the extreme northeast corner of Indiana and occupies an area of 652 square miles. It is a rural area that not only has the rural health problems but also has many problems related to recreational sites.

12. Lakes County Health Department, Illinois has a population of over 300,000 and covers an area of 460 square miles. It has 24 miles of shore line on Lake Michigan and contains many other small lakes. The county varies from rural to highly urbanized.

13. Summit County, Ohio has 28 villages and towns with a total population of 236,000 people. The county varies from rural to a series of small urbanized centers. The largest population center is Toledo, Ohio which is not served by Summit County Health Department.

Environmental health interns participated in the following activities during the summer:

1. Accident Prevention
2. Air Pollution
3. Communicable Disease
4. Emergency Sanitation
5. Outbreaks of Food Borne Infections and Poisonings
6. Food Sanitation
7. Housing Sanitation
8. Zoning
9. Industrial Hygiene
10. Insect Control
11. Meat Sanitation
12. Milk: Pasteurization and Products Plants
13. Milk Producer Farms

14. Rodent Control
15. Refuse, Solid Wastes-Private and Public
16. Nuisance Control
17. Tourist and Resort
18. Trailer Coach Parks
19. Hospitals and Sanitoriums
20. Nursing Homes and Homes for the Aged
21. Other Public and Semi-Public Establishments
22. Schools
23. Sewerage-Muncipal
24. Sewerage-Public
25. Sewerage-Other
26. Sewage Tank Cleaners and/or Vehicles
27. Stream Pollution
28. Swimming
29. Subdivision Control
30. Water-Municipal
31. Water-Public
32. Water-Other
33. Other Programs
34. Ourbreaks of food borne infections, poisonings
35. Carcasses and parts condemned
36. Carcasses and parts condemned
37. Dogs given rabies vaccine
38. Rabid Animals reported
39. Construction Plans reviewed
40. Water Supply Approvals
41. Septic tank installation approvals

42. Food (other than carcasses and parts) condemned-pounds

43. Office Consultations Telephone Calls

The students operated at a variety of levels of responsibility. Sixty-eight percent of the students had total responsibility for a subdistrict within their health department. They were expected to perform the work of a practicing sanitarian. They made inspections, and serviced complaints in a fairly broad area of environmental health problems. Sixteen percent had very limited responsibilities which related specifically to one or more specialized needs of the health department. Twelve percent worked as sanitarian aides; although they observed many of the environmental health problems existing, they did very little actual environmental health work. Forty percent of the students spent almost the entire summer traveling with other sanitarians. Opportunity was not provided for dual work. This student later changed his major to another field of interest.

Although 84 percent of the 25 students were able to perform individual work, only 56 percent were permitted to sign their names to inspection forms. The others were permitted to complete the work and then submit it to a sanitarian who would review the reports and sign them. In these health departments the director was concerned that legal action may ensue from the report and that the student could not be used as an official witness. In all cases the student sanitarian had his work reviewed by higher level supervisors for completeness, accuracy, and soundness of decisions.

The students were supervised in a variety of ways. Some students were assigned to a sanitarian who worked a given district. It was the sanitarian's task to supervise the student. Other students were responsible directly to an area supervisor who normally would supervise several sanitarians. Students also were supervised by training officers and in a couple instances by the director of the division. In the opinion of the student interns they received their

best supervision from the sanitarian supervisors and their worst supervision from the practicing field sanitarian.

In most cases the university coordinator made three supervisory visits to each student. The function of the first and second supervisory visits was to discuss the experience that the students had received up to that point; discuss the potential problem of overemphasis of certain areas of student participation (such as inspecting too many swimming pools or taking too many water samples); discuss personal problems that could affect the remainder of the summer assignment; discuss and negotiate with the health department supervisor and student a special project which would be helpful to the health department and challenging and meaningful to the student; discuss with the student the use of daily logs and the log summary; discuss with the students the due dates of various assignments; explain to the student and his supervisor the responsibilities of the student intern, the responsibilities of the University in the internship program, the responsibilities of the health department as an internship training center.

The function of the final supervisory visit was to: evaluate the performance of the students by making field visits to the sites of environmental health problems; evaluate the student in conferences with the field supervisor; help the student emphasize or reorganize certain portions of the special term project; help the student put in proper perspective the experiences that he had during the summer months; help the health department review the experiences of the student and encourage them to fill the important gaps before the end of the summer term.

CHAPTER VII.

EVALUATION OF ACTIVITIES OF ENVIRONMENTAL HEALTH INTERNSHIP PROGRAM

In order to evaluate the intern and the internship program, it is necessary to develop a set of tools that will give comprehensive factual information concerning the individual and his experiences. These tools range from keeping of daily records to on site evaluation by competent supervisors. The tools developed for this program included the daily logs, monthly summary of logs, special project reports, final student reports, on site consultations between the university coordinator, health department supervisors, and students; university coordinator's evaluation of student's performance during actual field visits and performance ratings by the field supervisors and attitude questionnaires administered to students and health department supervisors. The daily logs are a record of the types of activities that the student engages in each day, the major problems within each activity, the major recommendations, and an evaluation by the student of his preparation for each of the activities. It is used to teach the student to keep good records. It is also used to help the student make decisions concerning the problems, recommendations, and personal level of preparation for each activity. By reviewing his past experiences, problems noted and recommendations he has a basis for resolving new problems.

The monthly summary of logs is a means of evaluating the scope and the quanity of work being done by the student during each of the three month periods. The supervisor and university coordinator evaluate the monthly summary and then determine if the student is overconcentrating in one area at the expense of other areas. The summary is useful as a tool to help the supervisor redirect the activities of the student. It helps the student put into better perspective the work that he did during the past month.

The purpose of the special term project is to provide a student with a useful piece of work that he can call his own. This helps to counteract many

of the frustrations encountered in the field. An additional purpose is to develop the student's ability to handle special problems and projects with a minimum of assistance. He learns how to study a major field problem and prepare a well written, well documented, knowledgeable report. It provides the health department with a means of carrying out useful special projects that ordinarily may have been difficult to schedule and complete.

For a problem to be classified as a special term project it has to be a worthwhile effort to effectively study a problem that needs solution by the health department or to provide further information for the health department. The title of the project and the assignment is negotiated between the student, the health department, and the university coordinator.

The special project should be conducted over a period of 2 or 3 weeks. The work can be done as a unit block of time or in smaller units of time. The student is expected to develop a comprehensive outline of the project submitted to his health department supervisor for review. The outline is then submitted to the university coordinator by July 1st for evaluation and review. The corrected outline is to be returned to the student within one week of receipt by the university coordinator.

The student is expected to develop all necessary forms, etc., for the study with assistance by the health department supervisors. He is expected to read all background material for his project on his own time.

The special project report has the following format: title page which includes the name of project, name of the health department, name of the University and the university coordinator, name of the student and date; a comprehensive table of contents with pages numbers; a one page resumé of report that answers the questions (why, how, when, where, who, what) and states the major problems and major recommendations; a detailed description of the project; a detailed description of the problems; a detailed statement of the recommendations;

summary; appendix, which includes charts, maps of project area, forms developed for the study; copies of letters used; pictorial evidence where applicable; and an appropriate bibliography.

The original is submitted in a bound folder to the Department of Health and Safety for evaluation by the university coordinator. A copy is given to the health department, and a copy is kept by the student.

The special project report helps the field supervisor and university coordinator determine the ability the student has in the study of environmental health problems. It also helps these individuals determine the degree of understanding and ability the student has in conducting special studies and preparing special project reports. It is a measure of the student's desire to perform tasks at a high level of responsibility without very close supervision.

The final student report is a composite of the work that the student did during the summer and a detailed commentary on his experience. It is his opportunity to evaluate such problems as; how well the Univeriety prepared him for his work; how well the health department prepared him for his work; the value of his special project, his outside readings, his orientation into the health department and the knowledge he has gained from exposure to certain special experiences. He also includes any special personal problems that he encountered.

The on site consultations between the health department supervisor and the university coordinator gives these two supervisors an opportunity to discuss the student, his abilities, his short-comings, and his need for improvement scholastically and emotionally. It also helps the university coordinator to keep abreast of the very rapidly changing field of environmental health--its new problems as well as new solutions to old problems. To use time effectively and obtain the maximum amount of information, the university coordinator poses

the following questions:

1. What are the student's strong points?
2. What are the student's weak points?
3. What are the strong points of the university education?
4. What are the weak points of the university education?
5. How would you rate the student's performance?
6. Would you hire the student permanently?
7. What problems were involved in giving students an appropriate summer experience?
8. What problems were involved in supervising students?
9. What legal problems were involved in having students make inspections and reports?
10. What problem did you have in orientation of students?
11. What problems did students have adjusting to new situations?
12. What kind of relationship do you think the health department and university should have?
13. How can the university best support the health department's activities?

Consultations with students by the University Coordinator serves several purposes. The coordinator acts as a link to the university. It is comforting to the student to see a friendly face in this new and strange environment. The student has an opportunity to discuss his personal problems and the problems of the internship and to obtain help or solutions to some of these problems. The coordinator acts as negotiator between the student and his supervisor in certain areas where the students do not feel free to discuss the problems with the supervisor. The university coordinator further helps the student to put his problems and daily work assignments into proper perspective in order that he may fully understand the reasons for carrying out certain tasks in certain ways. The coordinator assists the student to understand why certain health problems cannot be resolved as quickly or as completely as the student would like them to be.

The coordinator's evaluation of the student's performance during actual field visits helps him get a better understanding of the application of the education and training process to actual field activities. He gets to know the student and his abilities and potential as a practicing sanitarian. He then is in a better position to change the teaching methods for all students or try to give an individual additional aid in correcting his deficiencies.

The field supervisor rates the performance of the student for the summer in terms of technical competency, basic knowledge at the beginning of the internship, amount of knowledge at the end of the internship, work habits, degree of dependability, soundness of judgement, ability to learn, and relationships with people.

The students had great difficulty obtaining decent housing at a reasonable price. In most cases the landlords wanted sizeable deposits or required a minimum of a one year lease. The cost of housing cut deeply into the money being earned, and therefore, reduced the funds available for the coming school year.

In some situations the students did not have adequate time to prepare reports. Some of them felt under constant pressure. To evaluate this problem properly it will be necessary in the future to determine if time is the real problem or if the student is not organized efficiently or lacks sufficient knowledge to prepare reports quickly.

In maintaining logs, some of the students complained that they had to keep a set of duplicate records, one for the health department and one for the University. While this was true, it is necessary for the University to leave a uniform system to evaluate the work of the student interns and to be able to compare and contrast assignments. The twelve health departments had twelve different systems, which did not include vital information needed for the University evaluation.

Car expense became a problem in several instances when the student had difficulty with the automobile or when they had to obtain one before they could do their summer assignment.

Several students complained that they had insufficient amount of time to complete assignments they had been given to do by the health department and University. This situation can be rectified to a degree through further negotiations between the University and health department; however, the student is expected to perform at a very high level, since this is not just a job but a creditable work study experience.

IX. FINDINGS

During the course of the summer the student gained a vast amount of experience that not only related to the actual work of the field of environmental health, but also to many of the problems related to working with people. A summary of the amount of time spent by the students in each of the major categories of activities is in Table I. This represents service time only. Travel time has been excluded. Table 2 represents the number of activities carried out by the students in each of the major categories. Table 3 is a survey of student attitudes toward this internship Table 4 is a survey of student attitudes toward specially assigned experience. Table 5 is a survey of the health department supervisors attitudes toward the environmental health internship. More detailed information concerning time and numbers by specific activities can be found in Tables 6 and 7 in Appendix D.

TABLE I.

SUMMARY OF ACTIVITY TIME FOR 21 ENVIRONMENTAL HEALTH INTERNS
SUMMER 1969
BY
CATEGORIES

ACTIVITIES	CODE	SUMMARY OF ACTIVITIES HOURS	PERCENTAGE
Accident Prevention	805	13	.18
Air Pollution	810	50	.69
Food and Milk Sanitation	825,827,848, 850,853,908	917	12.69
Housing	835,836,888,905	643	8.89
Insect Control	845	110	1.52
Solid Waste Disposal	860,862	130	1.80
Rodent Control	865	211	2.92
Camps, Trailer Courts, and Resorts	869,870,871	147	2.03
Industrial Hygiene	840	5	.07
Nuisance Control	855	500	6.92
Hospitals, Schools, and other Institutions	872,873,874,875	183	2.53
Sewage, Public	880,882	125	1.73
Sewage, Private	884,885,907 . ,	1001	13.85
Stream Pollution	887	210	2.90
Swimming Areas	890	1563	21.62
Water, Public	895,897	204	2.82
Water, Private	906	131	1.81
Office Consultations	909	694	9.60
Other	815,817,818,889 900,903,904	193	2.67
TOTAL		7229	100%

TABLE II.

SUMMARY OF ACTIVITIES FOR 21 ENVIRONMENTAL HEALTH INTERNS
SUMMER 1969

ACTIVITIES	CODE	ACTIVITIES	PERCENTAGE
Accident Prevention	805	15	.62
Air Pollution	810	25	1.03
Food and Milk Sanitation	825,827,848,850, 853,908	953	39.58
Housing	835,836,888,905	207	8.60
Insect Control	845	45	1.87
Solid Waste Disposal	860,862	106	4.40
Rodent Control	865	89	3.70
Camps, Trailer Courts, and Resorts	869,870,871,	109	4.53
Industrial Hygiene	840	18	.75
Nuisance Control	855	220	9.14
Hospitals, Schools and other Institutions	872,873,874,875	387	16.07
Sewage, Public	880,882	177	7.35
Sewage, Private	884,885,907	524	21.76
Stream Pollution	887	34	1.41
Swimming Areas	890	560	23.26
Water, Public	895,897	204	8.47
Water, Private	906	44	1.83
Office Consultations	909	508	21.10
Other	815,817,818,889, 900,903,904	27	1.12
TOTAL		2,408	100%

The data used for Table I and Table II is based on the summary of activities which was submitted by 84 percent of the students at the end of the semester. One student intern did not return to school but instead took a job as a practicing sanitarian. The second student intern has been ill since the beginning of the semester and has been unable to complete his work. The third student intern changed his major to another field. The fourth student intern has been delinquent in submitting his report.

An analysis of the preceeding data indicates that the student interns are of considerable value to the health department since, excluding travel time, they on the average are effectively working 5.2 hours per day or 65 percent effective. If travel time were added to this figure the level of efficiency would be even greater. The total of 2408 services performed by student interns are direct services. These do not include the services performed when the student accompanied another sanitarian.

TABLE III.

ATTITUDE SURVEY OF STUDENT EVALUATION BY 25 ENVIRONMENTAL HEALTH INTERNS OF ENVIRONMENTAL HEALTH INTERNSHIP PROGRAM, SUMMER-1969

EVALUATIVE QUESTIONS CONCERNING INTERNSHIP	YES	NO
1. Do you think that learning how to work with people is a key part of the internship program?	100%	0
2. Did you gain a substantial amount of knowledge of the various environmental health fields?	100%	0
3. Is it important to take the basic environmental health courses before the internship?	100%	0
4. Did you mature considerably during the summer?	88%	12%
5. Did you feel that the special project was stimulating and rewarding?	60%	40%
6. Was the opportunity to familiarize yourself with actual working conditions of major significance to you?	100%	0
7. Was the internship very satisfying?	96%	4%
8. Will you continue to work in environmental health after graduation?	96%	4%
9. Did you learn new things about yourself during the internship that is significant in your professional growth?	92%	8%
10. Did you feel comfortable in discussing specific environmental health problems or personal problems with your field supervisor?	40%	60%

In order to evaluate the student's internship in terms of his own personal satisfaction and what he thought had most significance during the course of the summer, the university coordinator asked the student to discuss the strong points of the internship and the weak points of the internship. The results of these discussions are quite interesting and informative. They are as follows:

1) One hundred percent of the students felt that one of the most significant parts of the internship was the student's involvement with people and the experience that he gained in working with a vast variety of people in trying to resolve environmental health problems.

2) One hundred percent of the students felt that they had gained substantial amount of knowledge in the various environmental health fields. One student commented that the environmental health internship is very much akin to the medical internship. They attributed the increase of knowledge to: (a) personal observation; (b) meeting with different types of people; (c) preparing and presenting talks to groups; (d) outside reading; (e) the questions that arose in the office during the working day and the answers to these questions; (f) observation of sanitarians as they worked with the public; (g) discussions with resource individuals from other fields such as agriculture; (h) preparation for the special project; and (i) their association with the practicing professionals in the office and field situations.

3. One hundred percent of the students indicated that it is important to take the basic environmental health courses before going on their internship; however, some were able to adapt to the program without basic courses far more readily than others. Of the 25 students in the field, 64 percent had taken their basic environmental health courses and 36 percent had not; the 36 percent had taken a course in community health problems and had preparation in the basic sciences before they went out on their internship.

4) Eighty-eight percent of the students felt that they had matured considerably during the summer, because they were put into the type of working situation where they had to perform as employees of a health department. This was a most interesting comment since over one-half of the young men were married and several of them had already been in the service.

5. Sixty percent of the students felt that the special projects had been satisfying and rewarding; 40 percent felt that it had not. In analyzing the answers of the 40 percent who did not see the value of special projects, it was evident that some projects were not as meaningful as they should have been; more emphasis must be given to this phase of the internship, through detailed discussions between the university coordinator and the health department supervisor. Forty percent of the students felt that one of the major values of the special project is the student's opportunity to choose a serious problem, and to develop the necessary techniques for determining and studying the various ramifications of the problem. It also gives them an opportunity to use imagination and individual judgement in deciding how best to gather information and prepare a meaningful report.

6) One hundred percent of the students felt that a major value of the internship was the individual's familiarization with practical work conditions in the field. Those who had taken environmental health courses felt that it made their course work much more meaningful; those who had not taken the course work felt that the coming year's studies would be much more beneficial, since they would be able to think back to the actual work situations.

7) Ninety-six percent of the students indicated that they found the internship to be very satisfying.

8) Ninety-six percent of the students indicated that they would continue to work in the field of environmental health. Eight percent felt that they would like to branch out into a part of the field of environmental health

that was more biologically oriented, such as water pollution. One hundred percent of the students felt that the internship had helped them and would continue to help them meet practical field health problems.

9) Ninety-two percent of the students said that they had learned new things about themselves during the course of the summer assignment. Some felt that they were indecisive when meeting new situations. Some felt that the internship had helped them gain some faith in their own power to perform. One student because of his unique housing situation felt extremely lonely and indicated that he was anxious to find himself a mate and settle down. Several students realized that they did not know how to budget funds and out of necessity had to learn to do so. One student had never had a job other than one where he performed manual labor because he didn't think he had the ability to do anything else; he said that he was quite surprised to learn that he did have other abilities.

10. One student gets very nervous when people look over his shoulder and he felt the supervisory visits were an intrusion. Sixteen percent of the students indicated that they had bad tempers and that they became upset very easily; the internship taught them to control themselves. One student indicated that he had been an extremely impulsive person, and the internship was teaching him how to be diplomatic. Three students indicated that they had not performed at their maximum level at the University during the preceeding year, and that they now felt they would put much more effort into their courses. Sixty percent of the students said that they were afraid to communicate with their supervisors about the job they were working on; they were willing to discuss problems of environmental health but were not willing to get specific about actual work assignments.

TABLE IV.

STUDENT EVALUATION OF 25 ENVIRONMENTAL HEALTH INTERNS
SUGGESTED SPECIAL EXPERIENCE FOR STUDENTS DURING THEIR INTERNSHIP
SUMMER 1969

SPECIAL EXPERIENCES	NECESSARY	UNNECESSARY
A period of time spent with a public health nurse to learn how to handle people.	0	100%
Visit meetings of Board of Supervisors, Health etc.	56%	44%
Understand how to set up a daily and weekly work plan.	72%	28%
Confer with State or County legal officer concerning basic Public Health Law.	20%	80%
Observe court room cases.	88%	12%
Gain broad look at all areas of environmental health.	100%	0
Gain experience in inspection of hospitals.	64%	36%
Gain some experience in plans review.	100%	0
Gain some experience in use of camera to prepare photographic evidence for court	24%	76%

The students evaluated the special experiences that had been requested by the university coordinator. They were asked if they thought the experience should be increased or decreased in time, or deleted. The response was as follows:

1) A period of time, possibly two to three days was spent with a public health nurse on her normal rounds; the objective is to help the student learn more about how to handle people. One hundred percent of the students felt this experience was not necessary and that they could learn more about how to handle people by working with the field sanitarian.

2) Visitations were made to meetings of the Board of Supervisors, Board of Health, Planning Commission, civic associations, etc. The objective is to acquaint the student with the broad ramifications of government and citizen participation and how it may affect environmental health programs. Fifty-six percent of the students felt this experience was worthwhile.

3) The students developed an understanding of how to set up a work plan on a daily and weekly basis, and how to make judgements by observing the methods used for work planning by the health department staff. Seventy-two percent of the students felt this experience was worthwhile.

4) A conference was arranged with the Attorney General's office on basic State public health law. Eighty percent of the students felt that more could be learned about basic health laws by conferring with the health department supervisors and health officers than by meeting with the State or county legal officer.

5) Some experience was gained in court room cases where possibly an environmental health problem was being discussed. Eighty-eight percent of the students felt the experience to be worthwhile.

6) A broad look should be given at all areas of environmental health from food to sewage; however, less time should be spent on air pollution

and radiation than the other basic environmental health services. One hundred percent of the students felt the experience to be worthwhile. However, they varied considerably within estimation of the amount of time to be spent on each activity. Time seemed to be a function of individual interest.

7) Some experience was gained in inspection of hospitals, nursing, and convalescent homes. Sixty-four percent of the students felt the experience to be worthwhile.

8) The students were given some experience in plans review. One hundred percent of the students felt the experience to be necessary.

9) It was requested that the students be given some experiences in the use of a camera and photographs as court evidence. Most of the students did not receive this type of experience. Seventy-six percent of the students felt that the experience was unnecessary; if photographic evidence is needed, they recommended hiring a profes ional.

By using the preparation code on the daily logs, the students were forced to evaluate each activity, and their degree of preparation for the activity. They were also required to indicate whether or not they needed more preparation from the University, more preparation from the health department, or more self study. To properly evaluate the preparation code, it is necessary to separate those students who had environmental health courses from those students who had community health and some science courses.

The sixteen students who had had the basic environmental health course felt that the health department did a fine job of preparing them for their summer work, although there were certain areas in which they had some deficiencies. These areas included: an understanding of the actual operation of swimming pools; a means of determining rate of flow of liquids; and some preparation in the use and understanding of simple statistical terms. It was suggested that this type of educational experience could be gained by revising

the laboratory courses to include the use of demonstration models in the aforementioned areas, followed by appropriate field trips with the professor to see the actual problems. All the students felt that they had been given adequate material for self study and that they knew which references to refer to when necessary. Some felt that they should have spent more time reviewing this material before they started their internship.

The group of students who had not taken environmental health courses felt that the health department had given them adequate training. Six of the nine students felt that they would have had much less difficulty if they had taken environmental health courses before they attempted the internship. Three felt that their environmental health course work would have been desirable but that they were able to perform work assignments with good understanding through self study.

The students evaluated their orientation to the job within the health department. The concensus was that the student should have some knowledge of the following items before they enter their field internship: geographical devision of county or region; problems in each area of the county; the amount of driving; use of the intern's time within each part of the county or region; the environmental health activities covered by the assigned department; and a knowledge of major roads within the county or region. The students feel that the best type of orientation was one in which the student had an opportunity to learn about the philosophy and basic programs of the department in one day of conferences with various health department officials. They felt that the student should have an opportunity to go out into the field with all of the sanitarians and observe the various types of problems that he might encounter during his work. This orientation would be for approximately three to four days. Following this, the students felt they should have an opportunity to make actual inspections, surveys, and studies under close supervision and

direction of the sanitarian for about one week; finally, before he is permitted to go out on his own, he should spend one to two days with the district supervisor to discuss problems and to have the supervisor review his approach to people and inspections, studies and surveys for various specialized problems.

TABLE V.

HEALTH DEPARTMENT SUPERVISOR'S EVALUATION OF ENVIRONMENTAL HEALTH INTERNSHIP PROGRAM-SUMMER 1969

EVALUATIVE QUESTIONS CONCERNING INTERNSHIPS	YES	NO
1. Would your student intern make a good sanitarian?	92%	8%
2. Would you hire your student intern if a position were available?	92%	8%
3. Did the student definitely earn his salary?	84%	16%
4. Was the work of the intern of considerable value to the health department?	84%	16%
5. Was one of the strong points of the intern his ability to independently increase his knowledge in areas where he was deficient?	84%	16%
6. Did the student indicate his eagerness to learn by asking reasonable questions when necessary?	100%	0
7. Was the student on time each morning?	96%	4%
8. Was the student ever absent from his work assignment?	8%	92%
9. Was the close relationship between University health department and student of considerable value?	100%	0
10. Is it essential for the University to continue to give field supervision to the student through personal visits?	100%	0

NOTE: Each Supervisor answered each question

In order to evaluate the internship in terms of the satisfaction of the various health departments, a series of questions were posed to the supervisors:

1) The health department supervisors felt that 92 percent of the students would make good sanitarians, and they indicated that if positions were vacant at the time of graduation they would definitely consider hiring the students to fill the vacancies.

2) The supervisors felt that 84 percent of the students had definitely earned the salary that had been given to them and that they had performed work that had been of considerable value to the health department. One health department indicated that there was inadequate time during the summer to prepare the students in such a way that they would be of value to the health department and possibly they would be of more value during the second internship. Another health department indicated that its student did not have adequate background for the job and that by putting the student into a variety of programs he would not be productive at all. One health department indicated that one of their students did not have the ability to function as a practicing sanitarian.

3) The supervisors indicated that one of the strong points of the students was that they were not afraid to ask questions concerning items that they did not understand. They also felt that 84 percent of the students were able to work on their own and were inclined to increase their knowledge by reading rules, regulations, pamphlets etc. relating to the work.

4) Ninety-six percent of the student were always prompt in reporting for work.

5) All the supervisors felt that a major value of the internship program was the close relationship that had been established between the health department and the University. They felt that the University visits were

helpful to the student and to the health department.

Much of the information that has been discussed in this section has come from the final student reports. Portions of the discussion have come from conferences which the university coordinator held with the students and field supervisors during his visits.

CHAPTER X.

DISCUSSION, CONCLUSIONS AND SUMMARY

One subject that has not been discussed up to this point is the number of internships a student should have during his undergraduate preparation. It is felt that two internships is preferable. One internship should come at the end of the junior year, when the student has completed his basic environmental courses and his basic science courses. At the completion of his first internship he will have an opportunity to discuss with his fellow students and his professors the various problems that he had encountered during the summer months. Specialized courses in environmental health plus environmental health seminars which would discuss current problems in depth would help further develop the student during his senior year. The second internship should be given at the end of the senior year. When this internship is completed the student should have collated his field and educational experiences. The only drawback to this concept is that the student would then not be able to obtain permanent employment until he has completed his second internship. The main advantage to the health department of the two internships is that the student during the second internship would be of considerable value to the health department because of his previous experience and knowledge.

A most important need in the field of environmental health has been realized; a mechanism for the professional preparation of environmental health practitioners at the undergraduate level has been developed, tested, and found to be highly successful. The inclusion of professional field practice in this mechanism has the student to intergrate the health and science aspects of the field of environmental health. As a result of his internship, he is able to understand clearly the problems of the field and to utilize his knowledge of how to work with people in resolving these problems. All the participating students, the University, and the cooperating health departments have found the environmental health internship to be the practical approach to

completing the development of future environmental health specialists.

This extensive study of an undergraduate environmental health internship program is composed of three major parts: 1) The development of the project and the approaches used in providing the internship experience; 2) The testing of the objectives of the internship concept and the various tools developed for its evaluation; and 3) The preparation of the report submitted to Consumer Protection and Environmental Health Service, Public Health Service, Department of Health, Education, and Welfare.

The final report includes an introduction to the needs for environmental health manpower, a philosophy of undergraduate environmental health curriculums, the approach used to securing internships for students, a description of the internship program--summer 1969, the special internship projects, an evaluation of the activities of the 1969 environmental health internship program, the problems encountered during this internship program; and the findings and attitudes related to the students, the health department and the University.

APPENDIX

RECOMMENDED POLICY FOR [illegible] ON
ENVIRONMENTAL HEALTH INTERNSHIP PROGRAMS

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PURPOSE OF INTERNSHIP

The ENVIRONMENTAL HEALTH INTERNSHIP PROGRAM is designed to prepare Environmental Health majors to assume productive roles immediately upon graduation from the University. This professional field practice enables the students to integrate the art and science of the profession as learned during the educational process, with the practical existing problems in the community.

I. Minimum Prerequisite

A. Phase A - Junior Status, General Biology, General Chemistry, Community Health.

B. Phase B - Senior Status, Principles and practice of Environmental Health and Environmental Health Laboratory, Organic chemistry, microbiology.

II. Registration

A. All students assigned to Environmental Health internship course will register for the course either before registration or during normal registration period.

III. Semester Hours Credit

A. 3 hours per phase

IV. Contract

A. All students accepting an internship will sign a binding contract concerning his obligation to the University and the Health Department for whom he works.

V. Selection of Health Department as Training Center

A. For a Health Department to qualify as an internship training Center it must meet the following criteria as determined by the

University Internship Coordinator.

1. Be supervised by a registered sanitarian or registered professional engineer.
2. Have a broad program of Environmental Health activities or have the capability of arranging special work assignments for students in areas where the Health Department does not normally function.
3. Provide the student with a stipend for working in the Health Department.
4. Provide adequate guidance and supervision to the student to enable the student to grow personally and professionally.
5. Expose students to all facets of environmental health practice.
6. Provide close day-to-day supervision of the student's field practice by well trained environmental health practioneers.
7. Complete a final performance rating for each student.

B. Health Departments programs for Environmental Health students shall be reviewed at the end of the first internship program.

C. An appropriate certificate shall be issued to the Health Departments that have been approved for internship.

VI. Suggested Experiences for Environmental Health Trainees

A. It is suggested that the following types of experiences be given to the students:

1. Visitation to meetings of the Board of Supervisors, Board of Health, Planning Commission, civic associations, etc. The objective is to acquaint the student with the broad ramifications of Government and citizen participation and how it may affect the environmental health program.
2. An understanding of how to set up a work plan on a daily and weekly basis, and how to make judgments concerning what is a

priority item.

3. Some experience in court room cases where possibly an environmental health problem is being discussed.

4. A broad look at all areas of environmental health from food to sewage; however, less time should be spent on air pollution, water pollution, and radiation than the other basic environmental health services. (See page 25 for List)

5. Some experience in inspection of hospitals, nursing and convalescent homes.

6. Some experience in plans review.

7. Whatever other experience in Health Department services deemed necessary to futher round out the individual trainee.

8. Some direction in how to study a major environmental health problem and how to develop the report.

VII. Responsibilities of Students on Environmental Health Internships

A. Student shall fulfill all of the rules and regulations of the Health Department by whom they are employed.

B. Special emphasis shall be given to make sure that they are on time and not absent from duty unless there is a serious illness.

1. Then they must notify their supervisor as soon as possible and in accordance with the regulations of the employer.

2. The student will <u>not</u> take more than one day off from work except for illness, without the university coordinator's approval in writing.

C. The student is expected to perform whatever assignments are required by his supervisor.

D. Outside Reading Assignment

1. Read and learn rules and regulations concerning environmental

health activities in the particular Health Department.

2. Read and learn articles and/or manuals related to environmental health problems and programs.

3. Read and learn articles in professional journals related to environmental health programs.

4. The requirement will be to submit a bibliography broken down by specific Environmental Health areas, at the end of the semester.

E. The student will be required to complete a 2 - 3 week project during the course of the summer. The project title will be negotiated between the student, the University Coordinator, and the Health Department supervisor. The project will be backed up with an appropriate bibliography.

F. A daily log will be kept by the student and summarized at the end of each month. Instructions concerning the log are in the log manual in appendix D.

VIII. Special Term Project

A. Purpose - The purpose of the term project is to provide a student with a useful piece of work that he can call his own. This helps to counteract many of the frustrations of the field. A further purpose is to develop the student's ability to handle special problems and projects pretty much on his own. It develops his ability to study a problem and prepare a well written, well documented, knowledgeable report. It provides for the Health Department a means of carrying out special projects that ordinarily may have been difficult to carry out.

B. The special term project is to be a worthwhile effort to effectively study a problem that needs solution by the health department or to provide further information for the Health Department.

C. The title of the project and the activities to be negotiated between the student, the Health Department and the University Coordinator.

D. The special project should be between 2 and 3 weeks long. The work can be done as a unit block of time or in smaller groupings of time.

E. The student is expected to develop a comprehensive outline of the project. It should be submitted to his supervisor within the Health Department for review.

1. The corrected outline is to be submitted to the University Coordinator by July 1st for evaluation and review.
2. The corrected outline is to be returned to the student within one week of receipt by the University Coordinator.

F. The student is expected to develop all necessary forms, etc. for the study with assistance by the Health Department supervisors.

G. The student is expected to read all material, on his own time which is needed to make the project more meaningful.

H. The special project report will have the following format:

1. Title page - Name of project, Name of Health Department, Name of University Coordinator, Name of student and date
2. Comprehensive table of contents with page numbers
3. One page resume' of report that answers the questions (why, how, when, where, who) and states the major problems and major recommendations.
4. Description of project.
5. Statement of the problems.
6. Statement of the recommendations.
7. Summary.

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8. Appendix, which includes charts, map of problem areas, forms and letters used.

9. Pictorial evidence where feasible.

10. An appropriate bibliography.

I. The special project will be double spaced, typed on one side of the page in good grammatical form.

J. The original in a bound folder will be submitted to the University Coordinator. A copy will be given to the Health Department and a copy will be kept by the student.

IX. Instructions for Format of Final Report For Environmental Health Interns

A. The final report shall be type-written, double spaced, ten or less pages and in triplicate.

1. The first copy will go to the University Coordinator by fall registration.

2. The second copy will be given to the Health Department at the completion of the summer work assignment.

3. The third copy will be for the student.

B. Attached to the final report should be the daily logs and monthly log summaries.

C. The required bibliography of outside readings separated by categories shall be placed at the end of the report.

D. The report will be in a bound folder.

E. The report will contain a complete table of contents, including page numbers.

F. Content of Report.

1. Name, location and brief description of the health department, and the community.

a. Include size, geographic and population data.

2. Include the following material in the report and then give a detailed commentary.
   a. What kind of work did you do during the internship.
   b. Description and summary of summer activities.
   c. Description and summary of the preparation code.
   d. State the most important problem you worked with.
   e. State the most important problem of the health department.
   f. Use the information from your logs to prepare a - e.
   g. Include a composite table.
3. Give detailed commentary on each of the following subjects (Be frank!. Be Objective!)
   a. How well prepared were you for your work by category of types of work.
   b. Did you need more University preparation, more Health Department preparation, or more self study?
   c. Evaluate the type of preparation given to you by the health department.
   d. Evaluate the type of preparation given to you by the University.
   e. Give a critique of the Health Department training.
   f. Give a critique of the University preparation for the internship.
   g. What would you have done differently in terms of training by the Health Department.
   h. What would you have done differently in terms of University preparation.
   i. Was the special project satisfying and rewarding? Why or why not?

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j. How did the outside reading tie in with the actual work?

k. Which outside reading was of greatest immediate benefit.

l. How would you best orient a new intern to his health department assignment.

m. Did you find your internship to be satisfying? Why or why not?

n. How much knowledge have you gained about the Environmental Health field.

o. Has the internship helped you meet practical field experiences.

p. What techniques would you use ot attract and hold new students in the field of Environmental Health.

q. Of how much value were the following experiences. Would you suggest decreasing the time, increasing the time or deleting the experiences:

(1) Visitation to meetings of the Board of Supervisors, Board of Health, Planning Commission, civic associations, etc. The objectives is to acquaint the student with the broad ramifications of Government and citizen participation and how it may affect the environmental health program.

(2) An understanding of how to set up a work plan on a daily and weekly basis, and how to make judgment concerning what is a priority item.

(3) Some experience in court room cases where possibly an Environmental Health problem is being discussed.

(4) A broad look at all areas of environmental health from food to sewage; however, less time should be spend on air pollution, water pollution, and radiation than the

other basic environmental health services.

(5) Some experience in inspection of hospitals and nursing convalescent homes.

(6) Some experience in plans review.

(7) Whatever other experience in Health Department services deemed necessary to further round out the individual trainee.

4. Are there any other experiences that you think an Environmental Health Intern should have in his work assignment. Be specific!

5. What problems did you encounter in the internship. Were they readily resolved. How could we prevent them from reoccurring.

a. Example of problems.

(1) Housing for yourself

(2) Homesickness

(3) Lack of ability to make decision etc.

6. Summary--State the high points of the summer briefly and whether or not you are definitely going to continue on in a career in Environmental Health.

7. Include a map of the Health Jurisdiction with a color code of concentrations of health problems.

X. <u>Responsibilities of University Coordinator</u>

A. Initial Visit in June

1. Objectives

a. Explain University Teaching Program

b. Explain Responsibilities of Student

c. Explain Responsibilities of University

d. Explain Responsibilities of Health Department

e. Discuss log

f. Discuss special projects for students and negotiate tentative topics of study

g. Discuss Deadlines

2. Time Needed

a. 1 Student	2 Hrs.)	
b. 2 Students	2-3 Hrs.)	
c. 3 Students	3-4 Hrs.)	Actual Meeting Time
d. 4 Students	3-4 Hrs.)	
e. 5 or More Students	4-6 Hrs.)	

B. Number of Assignments

Two or more departments may be supervised if travel time and arrangements can be made.

C. Final Visit

1. End of August and beginning of September
2. A period of 3-4 hours should be spent with each student in the field observing his actual work.
3. 15 minutes to 30 minutes should be spent with the Field Supervisor discussing each student.

D. The coordinator should carry a maximum of 18 students during the entire summer for the full summer teaching credit for each summer term.

E. The coordinator should receive a two hour teaching credit during the fall and spring for arranging the internships.

XI. Placement of Students

A. The University Coordinator of Environmental Health Internship will prepare a form for each student indicating that he has met the requirements needed to receive an internship assignment.

B. The chairman of the Department of Health and Safety will give final

approval to all assignments based on the recommendations of the internship coordinator.

XII. Evaluation of Student Performance

A. The student's final grade will be based on the following:

1. Attendance and participation in the Health Department activities.
2. His daily logs.
3. His term project.
4. His final report.

INDIANA STATE UNIVERSITY -- DEPARTMENT OF HEALTH AND SAFETY

Professional Field Practice Internship Program

A G R E E M E N T

I, _____ agree
(Student)

to work with _____
(Employer)

Employing Firm

at _____ in accordance with the
(Location)

regulations covering internships as established by the Department of Health and Safety.

Rate of Pay

I agree to accept the rate of pay established by may employer which I understand will be approximately $_____ per _____ initially, this amount to be increased as my ability and other conditions warrant.

Conditions of Employment

I understand that I am to continue working on this Professional Field Practice Assignment until released or transferred by my Campus Coordinator. Furthermore, I will not terminate nor arrange with my employer to be relieved of this job without the approval of my Campus Coordinator.

This agreement does not bind my employer to continue my services beyond the time he needs them. I understand that my employer might expect me to work at this Professional Field Practice Assignment for at least two separate periods.

I realize that the University has no control over the occupational hazards to which I may be exposed while working for this firm and that the University is not liable for any accident or incident that may occur as a result of this employment, nor shall the University be considered my employer for any purpose whatever.

12/69
HK/va

Academic Credit

I realize that my work on this Professional Field Practice Assignment is part of the requirement for a degree under the provisions of my curriculum pattern in Environmental Health. I understand that appropriate academic credit will be given for this work only if I provide satisfactory service to my employer and comply fully with the requirements outlined by my Coordinator from the University.

Work Certificate

I will obtain whatever work certificate is required by State Law at the work location indicated above.

Signature _____ **Date** _____

PARENTAL CONSENT

For Parent or Guardian

You are not a signatory to this agreement. However, the University would like your concurrence with the "away-from-Campus" aspect of this particular Professional Field Practice Assignment. Please indicate such concurrence by signing in the space indicated below.

Signature _____ **Date** _____

Address _____

Signature _____ **Date** _____
(University Coordinator)

Prepare in triplicate:
1 Copy for Student
1 Copy for Parent or Guardian
1 Copy for University Coordinator

12/69
HK/va

INDIANA STATE UNIVERSITY
ENVIRONMENTAL HEALTH INTERNSHIPS
DAILY LOG

A-15

NAME _____ DATE _____ SOCIAL SECURITY NO. _____

TOTAL HOURS IN TRAINING	TOTAL HOURS AT MEETINGS	TOTAL HOURS IN OFFICE	TOTAL HOURS IN THE FIELD	TOTAL TRAVEL TIME

NAME AND ADDRESS OF PERSON OR ESTABLISHMENT	MAJOR PROBLEMS	MAJOR RECOMMENDATIONS	PREPARATION CODE	ACTIVITY CODE	ACTIVITY TIME in 10th's of hrs.

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INDIANA STATE UNIVERSITY
ENVIRONMENTAL HEALTH INTERNSHIPS
MONTHLY LOG SUMMARY SHEET

NAME _____ DATE _____ SOCIAL SECURITY NO. _____

EXAMPLE: The Student participated in 10 housing surveys during the month: Code #835. The form would read as follows:

HOUSING	835	10	PPA	NMS
Activities	Activity Code	Summary of Activities	Summary of Prep. code	Summary of Act. time in quarter hrs.
Accident Prevention	805			
Air pollution	810			
Communicable Disease	815			
Emergency Sanitation	817			
Outbreaks of Food Borne Infections & Poisonings	818			
Food Sanitation (S)	825			
Food Sanitation (H)	827			
Housing	835			
Zoning	836			
Industrial	840			
Insect Control	845			
Meat Sanitation	848			
Milk: Pasteurization & Products Plants	850			
Milk Producer Farms	853			
Nuisance Control	855			
Refuse, Solid Wastes- Private and Public	860 & 862			
Rodent Control	865			
Tourist and Resort Accommodations	870			
Trailer Coach Parks	871			
Hospitals & Sanitoriums	872			
Nursing Homes and Homes for the Aged	873			
Other Public and Semi-Public Establishments	874			

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Activities	Activity Code	Summary of Activities	Summary of Prep. Code	Summary of Act. time in quarter hrs.
Schools	875			
Sewerage - Municipal	880			
Sewerage - Public	882			
Sewerage - Private	884			
Sewerage - Other	885			
Sewage Tank Cleaners and/or Vehicles	886			
Stream Pollution	887			
Subdivision Control	888			
Swimming	890			
Water - Municipal	894			
Water - Public	895			
Water - Private	896			
Water - Other	897			
Other Programs	889			
Outbreaks of food borne infections, poisonings	900			
Carcasses inspected	901			
Carcasses and parts condemned	902			
Dogs given rabies vaccine	903			
Rabid Animals reported	904			
Construction plans reviewed	905			
Water supply approvals	906			
Septic tank installation approvals	907			
Food (other than carcasses and parts) condemned - pounds	908			
Office Consultations Telephone Calls	909			

L O G M A N U A L

F O R

I N D I A N A S T A T E U N I V E R S I T Y

E N V I R O N M E N T A L H E A L T H I N T E R N S H I P S

INSTRUCTIONS

1. The student is to complete the Daily Log each day at the time of the occurence of the specific event. Put the date at the top of each log sheet.
2. The student's name and social security number must appear at the top of each of the daily logs.
3. Reccrd the time spent in actual service on the log in tenths of hours.
4. All of the enclosed instructions are self-explanatory.
5. The problem on each Environmental Health activity is to be described in a maximum of two sentences. Only major segments of the problem should be stated.
6. Recommendations should be a maximum of two sentences. Only major recommendations should be stated.
7. A small diagram should be included if applicable.
8. At the completion of the month of June, the month of July, and the month of August, a summary shall be compiled by the student of all activities by categories and the time spent in each of these categories. This compilation shall be in triplicate. The first copy will be sent to the Activity Coordinator, the second copy to the Health Department Supervisor, and the third copy will be kept for the student.
9. The completed three month Log will be evaluated by the University Coordinator as a portion of the final semester grade given to the student.
10. A summary table of all three months must be included in the final report. The table shall show total number of activities, total number of hours, total of preparation code. Use a monthly log summary sheet. At the top write, 3 month summary.

Activity Code

805 Accident Prevention - Include activities such as advice on elimination of hazards of all kinds, including those present in new and existing contructions. Include farm home, non-farm home, traffic, industrial and other accidents.

810 Air Pollution - Include activities connected with air pollution, such as identifying, locating, advising and planning for methods of elimination and control of new and existing sources. Causes of air pollution include chemical fumes, dust, smoke, odors, pollen and other.

815 Communicable Disease - Include activities in connection with cases of communicable diseases, much as undulant fever, typhoid fever, tularomia, psittacosis, parasitic diseases, rabies and other. Include dog bite investigations.

817 Emergency Sanitation - Include activities in connection with a disaster such as enemy action, fire, flood, and drought. Such activities will include inspection, advice and planning, etc., for elimination of health hazards.

818 Outbreaks of Food Borne Infections and Poisonings - Include investigations and other activities in connection with outbreaks of food borne infections and poisonings.

825 Food Sanitation (S) - Include places where food or beverages are processed or handled and sold for consumption on the premises. These will include all places permanently established which operate year after year even though they may be seasonal, such as a summer resort restaurant.

Examples: Restaurants, cafes, coffee shops, cafeterias, dining rooms, soda fountains, luncheonettes, dairy bars,

sandwich stands, taverns and beer gardens, cocktail rooms, and automatic vending machines.

827 Food Sanitation (H) - Include food handling establishments where foods or beverages are processed or handled and sold, but not consumed on the premises.

Examples: Grocery stores, bakeries, vegetable, fish and meat markets, delicatessens, locker plants, cold storage plants, food warehouses, food processing plants, canneries, beverage bottling plants, ice plants, breweries, wineries, distilleries, cider mills, food transporting and vending vehicles.

Do not include milk plants, producer farms and meat processing plants.

835 Housing - Include advice on demolition of slums, rehabilitation of substandard dwellings, planning and location of new housing, and inspection of existing housing.

836 Zoning - Include activities in connection with advice or consultation in the development or promotion of township or county zoning ordinances, and administration of such ordinances.

840 Industrial - Include places other than those defined under Food Sanitation (H), where materials (non-edible) are manufactured or assembled, and where persons are employed for such processing, and where facilities such as water supply, sewage disposal and/or food handling are maintained for the employees. An inspection should include at least the water supply (cross connection), drinking and food handling facilities, sewage disposal, toilet, shower and locker room facilities. Observation should be made concerning industrial health problems.

845 Insect Control - Include all planned insect control activities in connection with residences, such as homes and apartments and their yards and grounds, food and milk establishments, other business establishments, ponds, lakes, streams, stables, animal shelters, stockyards, artificial containers of water located elsewhere. Such activities should include spraying, dusting, drainage, etc.

848 Meat Sanitation - Include meat processing establishments where animals are slaughtered and meat is processed, handled and sold for consumption. Include also poultry slaughter and processing establishments, fish and seafood plants. Do not include meat markets.

850 Milk: Pasteurizing and Products Plants - Include places where milk and milk products are processed and handled, excluding producer farms. Include bottling plants, producer distributors, creameries, condenseries, evaporating plants, cheese factories, receiving depots, bulk transport vehicles, ice cream plants, and milk powder processing plants. Do not include milk plants under Industrial Establishments.

853 Milk Producer Farms - Include places where milk is produced for supply of milk to retail pasteurization and other milk product plants. Producer distributor inspections should be recorded under this item as well as under Pasteurizing and Milk Products Plants.

855 Nuisance Control - Include those unplanned activities which result from a request for abatement of a nuisance relative to air pollution, noise, animals and fowls, food, housing, insects and rodents, refuse and garbage, sewage and plumbing, water and other.

860 Refuse, Solid Wastes - Private and Public - Include planned activities such as advising of proper methods of collection and disposal, planning and location of new facilities, both public and private, connected with residences and apartments and their yards and grounds,

food and milk establishments, other business establishments, streets and alleys, collection vehicles such as garbage, refuse, trash and swill, disposal works or areas, incinerators, sanitary fills, dumps and other.

865 Rodent Control - Include all planned activities, such as rat proofing, poisoning, dusting, and gassing, in connection with residences, apartments, and their yards and grounds, food and milk establishments, food warehouses, wholesale markets, depots, wharves, docks and other establishments.

870 Tourist and Resort Accommodations - Include what are commonly referred to as summer resort hotels, recreational area parks, amusement parks, motels, motor courts, cabin camps, children's camps, cabin courts, tourist courts, or groups of three or more cottage units rented for short periods of time (two weeks or less), throughout the entire season. Do not include tourist homes, year around hotels, army or government camps, municipal, county or state parks, community resorts, golf courses and fairgrounds.

871 Trailer Coach Parks - Include those operated on a year around or seasonal basis. This would include any place where three or more trailer coaches are harbored, either free of charge or for revenue purposes. Do not include county or state parks, or building, tents, or other structures maintained by any individual or company on their own premises and used exclusively to house their own farm labor.

872 Hospitals and Sanatoriums - Include all types of general hospitals, and those caring for patients with certain types of diseases or conditions, whether privately or publicly owned.

873 Nursing Homes and Homes for the Aged - Include establishments or institutions other than hospitals having as one of their functions

the rendering of healing, curing or nursing care for periods of more than 24 hours to individuals afflicted with illness, injury, infirmity or abnormality, and/or establishments or institutions other than hospitals, hotels, or nursing homes which provide room and board to non-transietn unemployed individuals 65 years of age or older.

874 Other Public and Semi-Public Establishments - Include establishments or institutions such as day care nurseries, boarding homes for children, transietn residences such as hotels, dormitories, rooming houses and tourist homes, courthouses, city halls, libraries, terminals, theaters, auditoriums, bowling alleys, penal institutions, army and government camps, fairs, carnivals, golf courses, stadiums, roadside stops, labor camps, such as migrant and penal, community resorts, municipal, county or state parks, county or state trailer parks, and other business establishments. Do not include nursing homes or homes for the aged.

875 Schools - Include public, private, parochial, rural, township, graded, consolidated, village and city schools, colleges, training schools, universities, which are open during any part of the year, whether publicly or privately financed.

880 Sewerage - Municipal - Include sewers, sewage pumping stations, sewage treatment plants, etc., which are owned, operated and maintained by a governmental unit.

882 Sewerage - Public - Include sewers, sewage pumping stations, sewage treatment devices, and sewage treatment plants owned, maintained and/or operated by an individual, partnership, firm or corporation and utilized as a means of disposal of wastes which originate in an establishment which may be frequented by the public.

884 Sewerage - Private - Include sewers and sewage treatment devices, owned, maintained and operated by an individual and utilized as a means of disposal of the wastes from the home or establishment of the individual.

885 Sewerage - Other - Include other programs such as plumbing and all other sewerage and liquid wastes sanitation programs.

886 Sewage Tank Cleaners and/or Vehicles - Include any individual, partnership, firm, association or corporation which is engaged in servicing and cleaning septic tanks, seepage pits, or cesspools. Vehicles would include all trucks or other means of conveyance, either self-propelled or non-self-propelled, used to transport or carry wastes from septic tanks, cesspools or seepage pits.

887 Stream Pollution - Include services relative to pollution of drains, creeks, rivers, ponds, lakes, such as advice, consultation, inspection, survey, review of plans, and collection of samples.

888 Subdivision Control - Include activities in connection with the development of new and existing subdivisions such as inspections, site reports, advice, planning, percolation tests, consultation and review of plans.

890 Swimming - Include artificial swimming pools, (indoor and outdoor), wading pools, and natural bathing beaches.

894 Water - Municipal - Include source, pumping equipment and/or stations, treatment works, distribution system and other facilities owned, maintained and operated by a governmental unit. Inspection of the source, treatment and distribution facilities should be recorded under this item.

895 Water - Public - Include source, pumping equipment, distribution system and other facilities, owned by a private individual, part-

nership, firm or corporation and used as a water supply by persons such as employees or patrons. Include here also a water supply owned by a private individual, partnership, firm or corporation and used by a community or subdivision.

896 Water - Private - Include source, pumping equipment, distribution system and other facilities owned by a private individual and used primarily by himself and his immediate family.

897 Water - Other - Include cross connections, water or ice carrying vehicles, ice manufacture, water bottling plants, carrier and all other water sanitation programs. (ship, plane, bus, railroad)

889 Other - Such other programs may include Turkish or Finnish baths, shopping centers, race tracks, cattle auctions, marinas, mines, cemeteries, grain elevators, kennels, pounds, barber and beauty shops.

Other Activities are defined as follows:

900 Outbreaks of Food Borne Infections, Poisonings - Include the number of outbreaks reported. An outbreak of a food borne infection or poisoning shall mean that one or more cases of illness have been reported as apparently resulting from the ingestion of food or drink.

901 Carcasses Inspected - An inspection of a carcass shall mean that the food animal has been subjected to an ante and post-mortem inspection.

902 Carcasses and Parts Condemned (Pounds) - Include in pounds, carcasses or portions thereof which have been inspected and found to be unfit for human consumption.

903 Dogs Given Rabies Vaccine - Include total number of dogs receiving injections of anti-rabies vaccine as part of a health department sponsored immunization programs.

904 Rabid Animals Reported - Include all animals reported as having rabies.

905 Construction Plans Reviewed - Include plans of new or additions to schools, trailer parks, public or private sewage disposal system, public or private water supplies and other public or private construction or sanitary facilities.

906 Water Supply Approvals - Include all private water supply approvals, such as required in FHA and VA inspections.

907 Septic Tank Installation Approvals - Include all private sewage disposal system approvals such as required in FHA and VA inspections.

908 Food (Other Than Carcasses and Parts) Condemned - Pounds - Include in pounds all foods other than carcasses and parts which have been inspected and found to be unfit for human consumption.

909 Office Consultations - Telephone Calls - Include discussions with one or more persons not on the staff of the health department in regard to individual and specific situations and/or establishments, such as private water supplies, sewage disposal systems, food handling establishments, etc. If the health Department has a record of such situation or establishment, a notation must be made of the consultation.

ENVIRONMENTAL HEALTH INTERNSHIP ACTIVITY CODE

Activities	Activity Code Nos.
Accident Prevention	805
Air Pollution	810
Communicable Disease	815
Emergency Sanitation	817
Outbreaks of Food Borne Infections, Poisonings	818
Food Sanitation (S)	825
Food Sanitation (H)	827
Housing	835
Zoning	836
Industrial	840
Insect Control	845
Meat Sanitation	848
Pasteurizing and Milk Products Plants	850
Milk Producer Farms	853
Nuisance Control	855
Refuse, Solid Wastes - Private and Public	860
Rodent Control	865
Tourist and Resort Accommodations	870
Trailer Coach Parks	871
Hospitals and Sanatoriums	872
Nursing Homes and Homes for Aged	873
Other Public and Semi-public Establishments	874
Schools	875
Sewerage - Municipal	880
- Public	882
- Private	884
- Other	885

Activities	Activity Code Nos.
Seweage Tank Cleaners and/or Vehicles	886
Stream Pollution	887
Subdivision Control	888
Swimming	890
Water - Municipal	894
- Public	895
- Private	896
- Other	897
Other Programs	889
Other Services	
Outbreaks of food borne infections, poisonings	900
Carcasses inspected	901
Carcasses and parts condemned	902
Dogs given rabies vaccine	903
Rabid Animals reported	904
Construction plans reviewed	905
Water supply approvals	906
Septic tank installation approvals	907
Food (other than carcasses and parts) condemned - pound	908
Office and Telephone Consultations	909

DEGREE OF PREPARATION

PA	Prepared for Assignment
UA	Unprepared for Assignment
PPA	Partially Prepared for Assignment
NUP	Need More University Preparation
NHDP	Need More Health Department Preparation
NMS	Need More Self-Study

The student is to make two evaluations and list them under preparation codes on the daily log form. The student must first decide if he was prepared, unprepared or partially prepared for the assignment. Then he must decide who should provide the preparation. An example would be in a milk plant. The student marks UA (unprepared for the assignment) and then he marks NUP (needs more university preparation).

Preparation

Code

INDIANA STATE UNIVERSITY
ENVIRONMENTAL HEALTH INTERNSHIP PERFORMANCE RATING FORM

Name of Student _____ Date _____

Address (Permanent) _____ Social Security No. _____

Name of Health Dept. _____ Location _____ Name and Rank of Supervisor _____

COMMENTS

	UNSATIS-FACTORY	IMPROVE-MENT NEEDED	SATIS-FACTORY	SUPER-IOR	OUT-STANDING
1. TECHNICAL COMPETENCY					
a) Food					
b) Water					
c) Sewerage					
d) Insect & Rodent Control					
e) Solid Waste Disposal					
f) Institutions					
g) Camps & Resorts					
h) Housing					
i) Other					
2. BASIC KNOWLEDGE AT BE-GINNING OF INTERNSHIP					
3. ACQUIRED KNOWLEDGE AT END OF INTERNSHIP					
4. ATTITUDE - Lateness, Sickness, Enthusiasm					
5. WORK HABITS - - Planning daily work - Organization of work - Completion of projects					
6. DEPENDABILITY Can be depended upon to carry out work assign-ments					
7. JUDGMENT - seeks help when needed					
8. MAKES REASONABLE DECISIONS					
9. ABILITY TO LEARN					
10. RELATIONSHIP WITH PEOPLE Peers, Citizens, Supervisors					
OVERALL PERFORMANCE RATING (Consider all previous items except Item No. 2)					

12/69
HK/va

RESUMES OF SPECIAL TERM PROJECTS

THE ABANDONED AUTOMOBILE PROBLEM IN MONTGOMERY, COUNTY, OHIO [7]

Description

A study was made of abandoned automobiles in Montgomery County, Ohio. It was determined that there has been a very sharp increase in abandoned automobiles from 1966 to 1968. In 1966, 708 vehicles were abandoned; in 1967, 1,460 were abandoned; and in 1968, 3,836 vehicles were abandoned.

Major Findings

The major problems relating to the abandoned vehicles are:

1. They become an accident hazard and a foci of rodent and insect haborage and an eyesore within the community.
2. The junked vehicle is not needed as much as in the past because new steel processes requires cleaner scrap steel than the hulk cars.
3. To prepare the car for scrap use all nonferrous parts must be removed. This is actually done by stripping the car and burning out the interior. The burning creates an air pollution problem.

Recommendations

1. Develop a low-cost shredder similiar to but smaller than the one used in the Los Angeles area.
2. Change the basic laws to allow municipalities to remove vehicles within a 30-day period rather than a period of up to six months.
3. Incorporate a disposal tax in the original price of the vehicle.
4. Develope incinerators for the scrap processer and municipalities which could be used for proper burning of the vehicle.

Summary

Many factors and conditions exist which contribute to the abandoned

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[7] Martin, Don, "The Abandoned Automobile Problem in Montgomery County", September 8, 1969, Dayton, Ohio. Unpublished Study.

vehicle problem, not only in Montgomery County, Ohio, but through out the entire county as well. The problem recently has become of such a critical nature that much study and research has been undertaken in an effort to solve it. New and revised laws and ordinances are being enacted, and new equipment and methods of disposal are being devised in an effort to make automobile scrap clean enough to have it used as scrap for the steel mills. Another growing issue, much in line with that of abandoned vehicle disposal is the problem of disposal of the multitude of household appliances such as refrigerators, stoves, washers, and other steel scrap. The scope of the problem is being recognized by industry and governmental agencies.

ENVIRONMENTAL HEALTH PROBLEMS OF RECREATIONAL CAMPS[8]

Description

Because of the existing needs in various recreational camp areas a report was developed which clearly identifies all areas of potential environmental health problems within the recreation camp community, means of preventing problems, and recommendations for solution. The report describes the various standards to use in the selection of the site, the development of proper water supply, and sewage disposal system. It discusses the proper operation of food programs, refuse handling, swimming pools, and outdoor bathing places. It describes potential insect and rodent problems and methods used to control them.

Major Findings

A vast variety of environmental health problems exist within the recreation camp community. Recreation camps are similiar to other types of communities. They differ from other communities in that many types of individuals from many different areas congregate within a limited area. This creates the potential for a serious spread of infection. Where facilities such as water supply, sewage disposal and refuse disposal are inadequate or totally lacking, the visitors then fend for themselves often creating serious environmental health hazards for themselves and neighboring communities. The problem will be greatly excentuated in the near future as a result of our continuing prosperity.

Major Recommendations

1. Comprehensive environmental health programs should be developed in all recreation areas.
2. Trained environmental health specialists should be hired to conduct these programs.

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[8] Woodbury, Richard, "Environmental Health in Recreational Camps," Sept. 8, 1969, Wawkeegan, Illinois. Unpublished Study.

3. Camp operators should be required to take courses in the fundamentals of environmental health before they can be liscensed to operate camp sites.

Summary

The American Camping Association, Boy Scouts of America, YMCA, and YWCA have standards for camps and camp areas. These standards should be evaluated by the afore mentioned associations and competent environmental health people and then they should be applied to all camp areas. The anticipated sharp increase in use of recreational lands will continue to create a vast variety of environmental health problems unless such major questions as adequate site location, proper water supply, adequate sewage disposal, proper housing, proper food sanitation, adequate refuse handling, proper swimming pool operation, and adequate insect and rodent control are considered and resolved.

BACTERIOLOGICAL COMPARISON OF CLEAN-UP PROCEDURES IN THE CUTTING DEPARTMENT OF SIX MAJOR CHAIN STORES[9]

Description

The purpose of this project was to determine the total number of bacteria found on meat cutting utensils and equipment that was used by several chain stores and to determine if the present cleaning procedures were adequate to remove the bacteria. The study was conducted in Wayne County, Michigan at 12 larges chain stores. Meat preparation equipment including knives, sawing blades, cutting boards, and knive scabberds were swabbed. Standard methods of testing were used. The cleaning procedures in the stores were observed.

Major Findings

1. The bacteriological tests indicated that the average count of bacteria on meat cutting equipment was 20,000 bacteria per surface area of ½"by 4".
2. Observation of equipment and cleaning procedures indicated that there was inadequate personnel for proper cleaning , that knives were only wiped with a damp rag, that meat mills were never dismantled for cleaning, and sawing housings were loaded with meat particles. Brushes used to brush meat particles from tables, etc., were heavily loaded with old meat particles.
3. Regular wire shopping carts were used to store and transfer the meat around the cutting room. The carts had pieces of old meat and dried blood on them.
4. Saw dust which was used in meat preparation areas was frequently allowed to remain on the floor a week or longer.

Major Recommendations

1. Meetings should be held between health department officials and chain

[9]Leisure, George M., "Bacteriological Comparison of Clean-Up Procedures in the Cutting Department of Six Major Chain Stores," Sept. 8, 1969. Eloise, Michigan. Unpublished Study.

store's managers to discuss the serious problems related to dirty equipment and improper cleaning techniques.

2. A special individual should be assigned to clean the equipment immediately after the completion of the meat cutting.
3. All meat preparation equipment should be throughly and completely dismantled and cleaned.

Summary

The study indicates that there is a great need for better developing and instituting proper cleaning procedures. The bacteriological study that accompanied the survey was of little significance since bacterial standards for meat cutting equipment does not exist at the present time.

MIGRANT LABOR CAMP STUDY[10]

Description

A study was made of migrant labor camps in the northeast region of Illinois. The region covers the following counties: DeKalb, Grundy, Kane, Kendell, McHenry, Will, Boone, Lake, LaSalle. The purpose of the study was to indicate the existing problems within migrant labor camps and discuss the migrant labor program of Illinois. Fifty-five migrant labor camps were inspected during the course of the study. Migrant labor camps are comparable to a small community. The camp has all the health problems that the community would have. However, these problems are more complicated for migrant labors are constantly traveling. They generally have very little education, have serious health problems, and are extremely poor. They don't stay in any one place long enough to have their health problem evaluated and corrected.

Major Findings

1. On site surveys of the migrant camps indicated that many of them have overwhelming unsanitary conditions such as poor sewage disposal, inadequate water supply, improper garbage and refuse disposal, and large quanities of flies and other insects.
2. There is inadequate time for the health department to make inspections and then expect corrections to be made.
3. In many cases, because of the briefness of the picking season, the farmer and the migrant workers are unwilling to make necessary improvements.
4. Medical assistance to migrant labors is very poor.
5. The rules and regulations concerning the migrant labor camp are inadequate

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[10] Crim, Richard, "Migrant Labor Camp Study," Sept. 8, 1969, Aurora, Illinois. Unpublished Report.

and difficult to inforce.

6. In some areas there may be a serious language barrier.
7. In most areas there is a serious cultural barrier.

Major Recommendations

1. Farmers should not be allowed to start operation until the sanitary conditions of the camps have been approved by the department of public health.
2. The migrant labor program should be a year long program. Conducting the program for 3-4 months is inadequate.
3. As a last resort the farmer and migrant worker should be forced by legal action to make necessary improvements.
4. The area public health nurse should visit the migrant labor camp.
5. Rules and regulations for migrant camps should be revised for the purpose of attaining a more strict and more humane standard for the operation of migrant camps.

Summary

The innumerable environmental health and community health problems that relate to the migrant laborer indicates that a considerable effort should be put into an effective migrant labor program. The program should include all areas of health, safety, and education. An effective working team made up of sanitarians, nurses, educators, and social workers, should develop a guideline and a series of resources to be used in helping the migrant family. They should further as a team help the family to resolve some of the health and educational problems that are limiting their abilities to live a useful life. Since the migrant family travels from state to state and, therefore, are excellent means of transmitting disease interstate, it is strongly suggested that strict federal regulations be developed and used to protect the migrant family and neighboring communities.

SURVEY OF MARINA, BOAT, AND YACHT CLUB SEWAGE DISPOSAL FACILITIES[11]

Description

A survey was made of sewage facilities at Marina, Boat and Yacht Clubs in Wayne County, Michigan. The survey was conducted because of a new Michigan Statute entitled, "Waste From Watercraft Act" which requires sewage treated or untreated to be accumulated in a holding tank or container in order that it will not reach the waters of the State of Michigan accept through a sewage disposal facility. This makes it necessary for someone in the Marina, Boat, and Yacht Club to provide such facilities. The studies were carried out in 37 Marina, Boat and Yacht Clubs in Wayne County, Michigan. Survey sheets concerning sewage facilities was mailed to each of the 37 organizations. At the time the report was prepared only seven had responded.

Major Findings

1. One of the organizations at this time is properly equipped to handle the sewage from the boats.
2. The reaction to the law and to the study appears to be negative since only seven of the 37 organizations responded.
3. The organizations urged their constituants to fight the new legislation.

Major Recommendations

1. Provide adequate toilet facilities in the Marina Clubs.
2. Provide for proper facilities for removing sewage.
3. Provide for storage containers for garbage and refuse.

Summary

The biggest single item brought to light by this report is the desire of the people to be advised by the health department concerning plans,

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[11] Tackitt, Stephen R., "Survey of Marina, Boat, and Yacht Club Sewage Disposal Facilities," Sept. 8, 1969, Eloise, Michigan. Unpublished Report.

proper equipment for pump-out stations, etc. It seems to the writer that although the "Waste from Watercraft Act" is a step in the right direction toward helping to fight water pollution, enforcement of the act will be difficult. Newer and better devises other than holdings tanks, will have to be devised.

INDIVIDUAL SEWAGE DISPOSAL[12]

Description

Individual sewage disposal will continue to be a serious problem for an indefinite period of time. In many areas of our country, the subdivision nightmare, has resulted in improper use of land. Land which was never meant to support housing without municipal water and sewage systems have been forced to do so because of lack of planning or disinterest on the part of the developer or the purchases of the property. For the sanitarian to better understand the problems and some recommended solutions to the topic of individual sewage disposal, a report was developed that discusses in some detail the various types of individual sewage disposal systems. These include: earth privy; vault privy; chemical toilet; septic privy; septic tank, cesspool, seepage pit, disposal trench.

Major Findings

1. Many contractors and even sanitarians have very little knowledge concerning the limitations of the type of sewage system being used.
2. They know very little or nothing at all concerning the soil and its ability to absort water.
3. They don't understand the effect of climatic conditions on sewage disposal.
4. Sanitarians and developers use questionable techniques for determining the soils ability to absorb water. The percolation test is affected by many variables related to climate, season, soils, etc.

Major Recommendations

1. Sanitarians have to be given short courses on individual sewage disposal techniques.

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[12]Grimes, Ronald, "Individual Sewage Disposal," Sept. 8, 1969, Danville, Indiana. Unpublished Report.

2. Sanitarians must know something about soils and soil profiles.

3. They have to learn how to use plot plans.

Summary

The best method to determine the potential effectiveness of a given soil for sewage disposal, is through the soil profile. The soil profile is made by digging a core out of the ground and evaluating physically the type of soils within the core.

The main problem encountered in providing on site sewage disposal is the type of soil in which the system is placed. Too many houses are built without consideration of soil or topography when providing on site sewage disposal. Even though on site sewage disposal is a serious problem, the technique will be used for long periods of time to come.

SURVEY OF VENDING OPERATIONS ON THE INDIANA UNIVERSITY CAMPUS[13]

Description

A study was made of the vending machine operations on the campus of Indiana University, Bloomington, Indiana. The purpose of the study was to determine the potential problems involved in operation, packaging and dispensing of food. Inspections were made to determine the cleanliness of equipment, the methods in which the units were serviced, and the routing of areas. Bacteriological samples were taken of various foods such as chicken salad, egg salad, ham salad, potato salad, meat loaf, roast beef, and bologna.

Major Findings

1. Although most vending machines were generally well located, there were some in areas where lighting was inadequate and space was at a premium. Some machines were located under stairwells. These were most unsatisfactory.
2. Machines were not mounted on rollers or glidders and it was impossible to get behind them or under them to clean.
3. Some of the routeman did not use good techniques in cleaning.
4. Bacteriological growth was found only in the ham salad and meat loaf.

Major Recommendations

1. Fresh sandwiches should be put into the machine each day rather than every other day.
2. All routeman should carefully clean the inside of their vending machines.
3. Where machines are crowded together additional areas should be provided.
4. All machines should be on some type of roller or there should be ample room between them so that necessary cleaning can take place.

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[13] Frederick, Schlatter, Connie, "Survey of Vending Operations on the Indiana University Campus," Sept. 8, 1969, Bloomington, Ind., Unpublished Report.

Summary

Increased labor costs has necesitated a new way of dispensing food--the vending machine. The vending machine has to be so equipped that it can properly maintain temperatures for hot and cold foods. The foods should be used within a twelve hour period.

PACKAGE TREATMENT PLANTS[14]

Description

A study was made in the east-central region of Illinois to determine the present acceptance and value of the package treatment plant and to indicate its future value in successful waste water treatment. Since 1958 the total number of package plants in this region has grown to fourteen. They service airports, motels, schools, and industry. In some instances industry treats its waste before they discharge it into the municipal sewer. Industry has discovered that some of the waste can be salvaged as produceable products or bi-products. The average flow of sewage is under 50,000 gallons per day. The most common type of plant used in the central region is the aeration type. The plant gives an 80 to 85 percent reduction in BOD. The large municipal plant usually gives an extra 5 percent BOD reduction. In the year 1972 the Sanitary Water Board of the state of Illinois will demand a 95 percent reduction in the BOD of all effluents which are being discharged into the state waters.

Major Findings

1. The major problem with current usuage is the lack of trained available personnel.
2. In 1972 additional problems will be created. They will include a reseting of the operation of the plant, new equipment, and in some cases possible a new system.
3. There will be a sharp increase in the number of package treatment plants which means there will have to be adequate existing waterways for the new plants or many new problems will be created.

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[14]Kouch, Tom, "Package Treatment Plants," Sept. 8, 1969, Champaign-Urbana, Illinois. Unpublished Report.

Major Recommendations

1. It is suggested that at least one individual from each institution that has a treatment plant be trained to direct its operation.
2. It would be well for the companies with existing plants to consider the changes dictated by the new water pollution laws now. They should start to change their plants in order that they may comply with the "72" deadline.
3. Considerable care should be given to the approval of new package treatment plants in order to avoid the creation of additional sewage problems.

Summary

Within the last eleven years in east central Illinois the small package treatment plant has proven to be an inexpensive means of treating sewage. Changes in state laws which are becoming effective in 1972 will necessitate a revamping of the existing systems.

FROZEN DESSERT SURVEY[15]

Description

A study of counter freezer operations was conducted in Summit County, Ohio to determine the problems relating to the storage and dispensing of forzen desserts. Fifty-nine establishments were included in the study. All establishments were inspected. However, only 28 establishments were selected for sample taking. This was done on a random basis.

Major Findings

1. The inspections revealed many problems of poor cleaning, loose and worn gasketts, worn and corroded parts and improper temperatures in the reservoir.
2. In some places the overrun was reused.
3. In the establishments where samples were taken, 41 percent of the products had high coliform counts. The owners were advised and given recommendations on how to make necessary corrections. New samples were taken and retested.
4. Of the new samples taken, 58 percent had high coliform counts.

Major Recommendations

1. Operators of establishments that sell frozen desserts should be given a short course on proper cleaning procedures to be used in the counter freezers.
2. They should also be instructed to dispose of all overrun.
3. Through cleaning should be given to all parts of equipment each day of operation. Worn out parts and loose gaskets should be replaced.
4. It is essential that the reservoir be maintained at 40 degrees F. or less.

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[15]Woodruff, William, "Frozen Dessert Survey," Sept. 8, 1969, Cayuga Falls, Ohio, Unpublished Report.

Summary

The study indicated a serious problem in the storage and dispensing of frozen desserts. Proper training is needed to correct this potential hazard.

CLEAR LAKE REPORT[16]

Description

Lake pollution is one of the emerging critical health issues of our times. As more people seek better means of recreation, and as the level of wealth increases in the United States, the waterways will be increasingly used and, therefore, increasingly contaminated. In Steuben County, Indiana a study was made of the Clear Lake community and the pollution problems in Clear Lake. In 1968 the Clear Lake Tax Payers and Improvement Association discussed the possibility of installing sewers around the lake. Since it was a very costly project, they decided to first test the amount of pollution in the lake at various points to determine the extent of the problem. This was accomplished in different ways. First, 488 questionaires were mailed to the property owners around Clear Lake. These questionaires were used to gather information concerning population trends (number of people and when they were at the lake) the number and types of water using appliances, the efficiency of sewage systems, the number of people interested in and those opposed to a public sewer, and the number of people interested in a separate study of their portable water supply. Several series of water samples were taken from the lake for bacteriological analysis to measure total coliform and fecal coliform. Flurescein dye tests were made on 445 of the 514 cottages. All feeder streams and channels running into the lake were surveyed for human and agriculture pollutents.

Major Findings

At the time the report was written, 53 percent of the questionaires had been returned.

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[16] Sluzewski, Richard E., "Clear Lake Report," Sept. 1969, Angola, Ind., Unpublished Report.

1. It was determined that there were an average of 3.71 persons per cottage.
2. Forty-six percent of the cottages were used for the season.
3. One hundred and sixty-six cottages had showers. There are 13 garbage disposals, 43 dishwashers and 45 washing machines. These appliances are in addition to toilets, sinks, bathtubs, and other bathing facilities.
4. Of the 445 cottages tested, 434 were negative and 11 or 2.15 percent were positive.
5. The bacteriological analysis of 36 samples indicated that only one apartment house sample had a higher count than the amount of bacteria allowable by state law.
6. A channel running a distance of a $\frac{1}{4}$ of a mile into the lake was found to be stagnent and, therefore, a potential problem.
7. Also a tile drain was discovered coming from a sewer into the lake.

Major Recommendations

1. The eleven properties that were polluting the lake were so informed by the health department and requested to correct the situation.
2. The 69 dwellings which had not been dye tested should be done at the convenience of the owners of the property.
3. The channel running into the lake should be cleaned and maintained in a proper manner.

Summary

The study indicated in a very decisive manner how a community could work together with the health department to try to determine health problems of mutual interest. It also indicated that the Clear Lake was relatively clear and that the few problems found could be corrected. The Lake could continue to be a source of enjoyment for the citizens for many years to come.

SUMMARY OF ACTIVITY TIME FOR 21
ENVIRONMENTAL HEALTH INTERNS

ACTIVITIES	CODE	SUMMARY OF ACTIVITIES HOURS	PERCENTAGE
Accident Prevention	805	13	.18
Air Pollution	810	50	.69
Communicable Disease	815	18	.25
Emergency Sanitation	817	6	.08
Outbreaks of Food Borne Infections & Poisonings	818	5	.07
Food Sanitation (S)	825	671	9.30
Food Sanitation (H)	827	158	2.19
Housing	835	532	7.36
Zoning	836	16	.22
Industrial	840	5	.07
Insect Control	845	110	1.52
Meat Sanitation	848	14	.19
Milk: Pasteurization & Products Plants	850	40	.55
Milk Producer Farms	853	500	6.92
Nuisance Control	855	33	.46
Refuse, Solid Wastes	860	130	1.80
Private and Public	862	130	1.80
Rodent Control	865	211	2.92
Migrant	869	86	1.19
Tourist and Resort Accommodations	870	15	.21
Trailer Coach Parks	871	46	.64

ACTIVITIES	CODE	SUMMARY OF ACTIVITIES HOURS	PERCENTAGE
Hospitals & Sanitoriums	872	52	.72
Nursing Homes and Homes for the Aged	873	10	.17
Other Public and Semi-Public Establishments	874	111	1.54
Schools	875	10	.14
Sewage - Municipal	880	91	1.26
Sewage - Public	882	34	.47
Sewage - Private	884	667	9.23
Sewage - Other	885	47	2.90
Sewage Tank Cleaners and/or Vehicles	886		
Stream Pollution	887	210	2.90
Subdivision Control	888	65	.90
Other Programs	889	101	1.40
Swimming	890	1593	21.62
Water - Municipal	894	4	.06
Water - Public	895	162	2.24
Water - Other	897	42	.58
Other - Outbreaks of Food Borne Infections Poisonings	900	1	.01
Carcasses inspected	901		
Dogs given rabies vaccine	903	16	.22
Rabid Animals reported	904	46	.64
Construction plans reviewed	905	30	.41
Water Supply Approvals	906	131	1.81
Septic Tank installation approvals	907	287	3.97

ACTIVITIES	CODE	SUMMARY OF ACTIVITIES HOURS	PERCENTAGE
Food (other than carcasses and parts) condemned-pounds	908	1	.01
Office Consultations Telephone Calls	909	694	9.60
TOTAL		7229	100%

TABLE VII.

SUMMARY OF ACTIVITIES BY NUMBERS OF ACTIVITY

ACTIVITIES	CODE	INSPECTIONS	PERCENTAGE
Accident Prevention	805	15	.62
Air Pollution	810	25	1.03
Communicable Disease	815	11	.46
Emergency Sanitation	817	8	.33
Outbreaks of Food Borne Infections & Poisonings	818	2	.08
Food Sanitation (S)	825	528	21.92
Food Sanitation (H)	827	295	12.25
Housing	835	104	4.32
Zoning	836	11	.46
Industrial	840	18	.75
Insect Control	845	45	1.87
Meat Sanitation	848	14	.58
Milk: Pasteurization & Products Plants	850	77	3.20
Milk Producer Farms	853	37	1.54
Nuisance Control	855	220	9.14
Refuse, Solid Wastes Private and Public	860 & 862	106	4.40
Rodent Control	865	89	3.70
Tourist and Resort Accomodations	870	23	.96
Trailer Coach Parks	871	86	3.51
Hospitals & Sanitoriums	872	234	9.72
Nursing Homes and Homes for the Aged	873	36	1.50

ACTIVITIES	CODE	INSPECTIONS	PERCENTAGE
Other Public and Semi-Public Establishments	874	109	4.53
Schools	875	8	.33
Sewage - Municipal	880	152	6.31
Sewage - Public	882	25	1.04
Sewage - Private	884	397	16.49
Sewage - Other	885	34	1.41
Subdivision Control	888	63	2.61
Other Programs	889		
Swimming	890	560	23.26
Water - Municipal	894	8	.33
Water - Public	895	124	5.15
Water - Private	896	47	1.95
Water - Other	897	80	3.32
Outbreaks of Food Borne Infections, Poisonings	900	1	.04
Carcasses and parts condemned	901	1	.04
Dogs given rabies vaccine	903	5	.20
Construction plans reviewed	905	29	1.20
Water supply approvals	906	44	1.83
Septic tank installation approvals	907	93	3.86
Food (other than carcasses and parts) condemned-pounds	908	1	.04
Office Consultations Telephone Calls	909	508	21.10
TOTAL		2408	100%